

# AIMCO

**HIGH CAPABILITY TOOLING**  
The Most Advanced Collection of Controlled Tools Anywhere





## CONTENTS

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### **ACRADYNE®**

IEC CONTROLLERS.....	4-6
TOOLWARE .....	7
1000 SERIES NUTRUNNERS.....	8-9
1000, 2000 & 5000 SERIES PISTOL GRIP NUTRUNNERS.....	10-11
2000, 3000 & 5000 SERIES ANGLE/INLINE NUTRUNNERS.....	12-15
5000 SERIES FIXTURED NUTRUNNERS.....	16
TUBENUT NUTRUNNERS.....	17
HOLD & DRIVE NUTRUNNERS.....	18
MID-EXIT CABLE NUTRUNNERS.....	19
RIV-NUT NUTRUNNERS.....	20
HT SERIES NUTRUNNERS.....	21-23
TOOL/SPINDLE SELECTION GUIDE.....	24-25
ACCESSORIES.....	26-28
ACRADYNE® SYSTEMS.....	29

### **URYU**

FIXTURED F-SERIES NUTRUNNERS.....	30-33
CONTROLLERS /CONTROLLER ACCESSORIES.....	34-35
CONTROLLED PULSE TOOLS.....	36-37

### **AUDITOR™**

TORQUE MEASUREMENT: OVERVIEW.....	38-40
TORQUE CUBE™.....	41
DESKTOP TESTERS.....	42
TORQUE DATA ANALYZERS.....	43-44
TRANSDUCERS.....	45-46
RUNDOWN FIXTURES.....	47
WIRELESS TRANSDUCER.....	47
DIGITAL WRENCH SERIES.....	48
ELECTRONIC TORQUE WRENCHES.....	49
TORQUE MEASUREMENT ACCESSORIES.....	49
PRESET TORQUE WRENCHES.....	50
HIGH-CAPACITY TEST STANDS.....	51-52
UFT SERIES JOINT SIMULATORS.....	53
TORQUE CART / TOOLSTRAC.....	54-55
APPENDICES.....	56-59

**HIGH CAPA**  
The Most Advanced Col

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AIMCO provides Global Assembly Solutions for threaded fastening applications using state of the art tools and application expertise gathered over 40 years in assembly and manufacturing. Our global market focus centers on Automotive, Electronics, Aerospace and General Assembly Industries.

If Productivity, Ergonomics, Reliability, and Quality are driving forces in your business, then AIMCO is your value-added partner. We provide cost effective answers for our customers by solving problems related to tightening strategies, tool selection and installation, joint failure analysis, audit trails and methods, combined with operator training to maximize the production efficiencies our tools provide.

AIMCO's manufacturing division "AcraDyne" in Portland, Oregon produces 300 models of D/C Controlled Tools and custom built multiple spindle systems ranging from approximately 1 to 6,500 Nm. **All made in the USA.** Our service, repair and calibration lab provides a fast turnaround on repairs and all electronic torque equipment are traceable to NIST standards.

AIMCO is the right choice to assist you with our strategically located sales force and worldwide distribution. Together we can put our 40 years of industry experience to work in facilities worldwide to enhance your competitive edge.



# ACRADYNE® iEC CONTROLLER



## FEATURES AND BENEFITS

- Data Storage – Standard units store 2,040 rundowns. 10 million rundowns or more are possible with advanced network capable units.
- ToolWare – Custom designed software application means no licensing fees.
- Backwards Compatible – Works with any AcraDyne® DC tool.
- Parameter Set Select and Indication – Change operations and clear indication of your current operations with one button.
- External Port Software Updates – Plug-in capability for software updates.
- Tool Calibration Routines – Stores the calibration directly in the tool's memory for easy plug and play into any AcraDyne controller.
- Rundown Storage – Data stored for the last 2,040 rundowns can be viewed as raw data or graphed with statistical information. This data can also be saved in .csv format and opened directly with MicroSoft® Excel or other programs.
- Programmable Torque Filter Frequency – Satisfies customer specific filter requirements.
- Programmable Calibration and Service Interval Alerts – Configure alerts to indicate service or calibration due for a tool based on number of cycles or months since the last service or calibration.
- Real Time Clock – For time and date stamping, rundown information and other logged data.
- Bar Code Scanning.
- Network Capabilities – Capable of interfacing with factory controls.
- Graphing Capabilities – To track and monitor tightening strategies.
- Multiple Fastening Strategies – Program up to 32 parameter sets to handle 32 torques and types of joints or link them for multi-step capabilities.
- Connection Capabilities – Connects with Parallel (legacy), USB or Ethernet.



## NETWORK CAPABILITIES AND ADVANCED FEATURES

- Network compatible with the following protocols: PROFIBUS, DeviceNET, Open Protocol, Modbus TCP and PFCS.
- 10 Million Rundown Storage Capacity.
- Data Retrieval using standard FTP methods.
- Toolware management software accessible through Ethernet and is port selectable.
- Real time ascii text string of data accessible through Ethernet port.
- Static IP addressable.
- Parameter selection can be made through serial port and/or through use of bar code readers.

# ACRADYNE® IEC CONTROLLER

## ACCURATE

- Controlled tightening improves quality.
- Process controls ensure no missed screws, stripped threads, re-hits or damaged threads.
- Reduces human error.
- Consistent torque control.
- Accurate tightening means higher quality.
- No premature shut-off.

## RELIABLE

- Reliable and accurate assembly - no guess work.
- Automatically set torque and reduce operator error.
- No counting required.
- Collect and analyze your production data.

## PRODUCTIVE

- Increased productivity means increased profits.
- Replace up to eight conventional tools with one controlled system.
- Quieter operation.
- No oil contamination from air tool exhaust.

## CONTROL STRATEGIES (CW OR CCW)

- Torque Control (TC) – Provides target torque with high and low limits with simple pass or fail criteria for tightening threaded fasteners.
- Torque Control with Angle Monitoring (TC/AM) – For tightening threaded fasteners, allows you to monitor angle and rotation to detect any changes in the joint rate which would indicate process problems.
- Torque Monitoring with Angle Control (TM/AC) – For controlling the amount of fastener rotation.
- Torque Control and Angle Control (TC/AC) – Providing both torque and angle targets, and high and low limits, further refining the pass or fail criteria for critical applications.

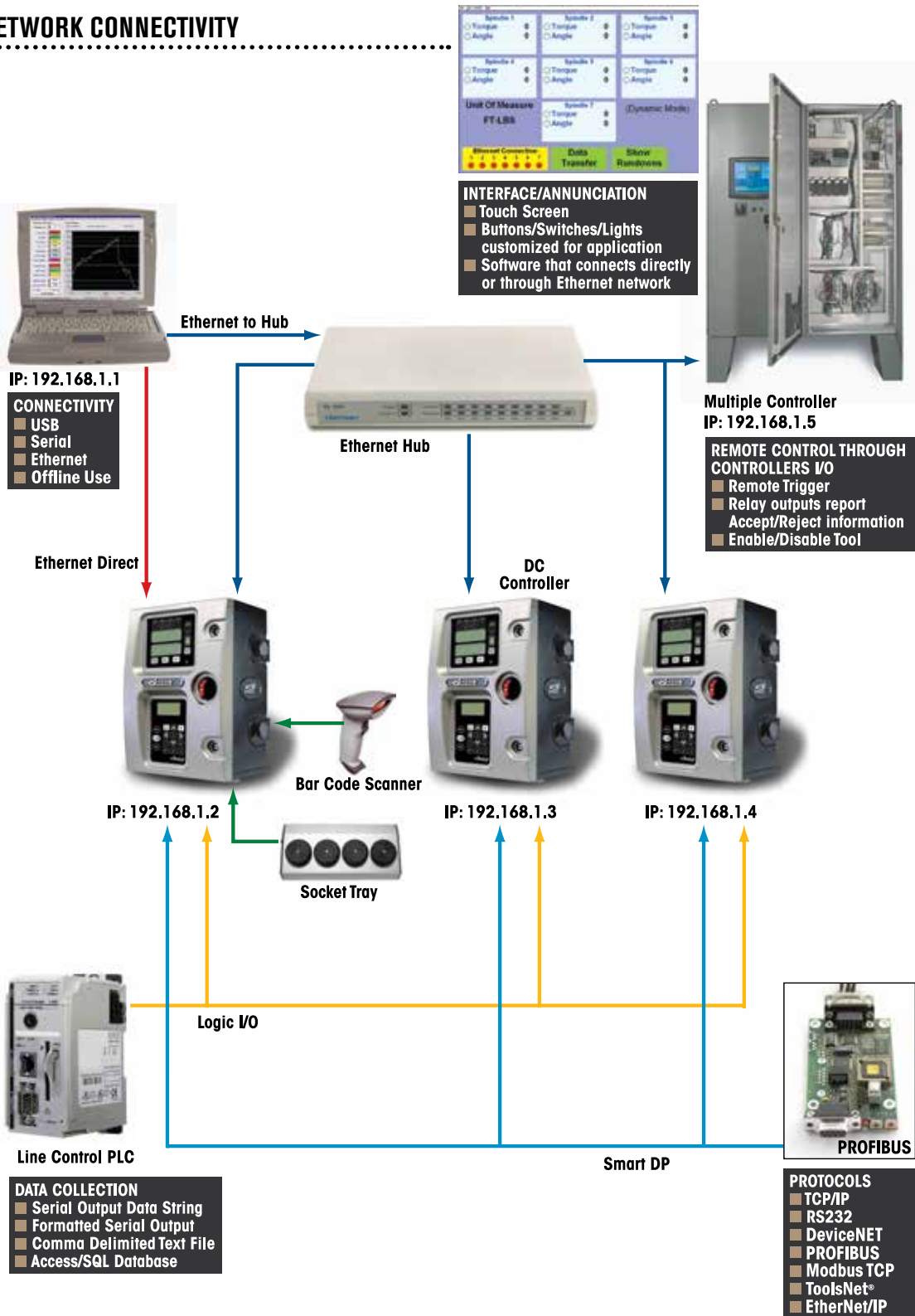
## ADVANCED CONTROL FEATURES

- Start Delay – Allows the controller to disregard initial torque reading for a period of time to aid in thread cutting fasteners, prevailing load, and high inertial load applications.
- Rundown Back-off Rundown (RBR) Strategies – Used when joint conditioning is required. The controller runs to an initial torque, reverses to a pre-programmed angle, and then rundown to final torque.
- Rundown Back-off (RB) Strategies – Allows the tool to rundown to an initial torque, then reverse to a pre-programmed angle.
- Tubenut Control – Runs a tubenut wrench to torque, then returns to the home position when the run command is removed. A patented safety algorithm reduces the risk of pinch point injury.

Model	Standard Features	KDM	Serial Port Rs232	24V I/O	Additional Serial Port(s)	Ethernet	DeviceNET	PROFIBUS	Ethernet #2
IEC352	X		X	X					
IEC352K	X	X	X	X					
IEC353	X		X	X	2	X			
IEC353K	X	X	X	X	2	X			
IEC354E	X		X	X	2	X			X
IEC354DA	X		X	X	1	X	X		
IEC354PA	X		X	X	1	X		X	
IEC354KE	X	X	X	X	2	X			X
IEC354KDA	X	X	X	X	1	X	X		
IEC354KPA	X	X	X	X	1	X		X	

# ACRADYNE® IEC CONTROLLER

## NETWORK CONNECTIVITY



## TOOLWARE

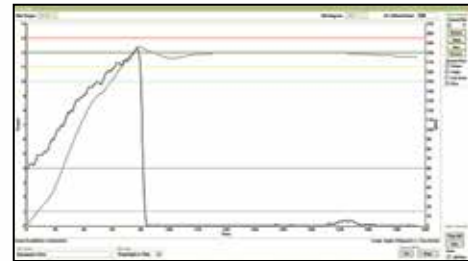
ToolWare is AcraDyne's software package designed specifically for AcraDyne® tools and controllers. Provided at no cost to all users, this comprehensive, user friendly program allows programming, analysis and diagnostics via Ethernet, USB or parallel connection to any Windows® computer workstation. The software automatically detects the controller or can be used offline.

### EASY PARAMETER SET-UP



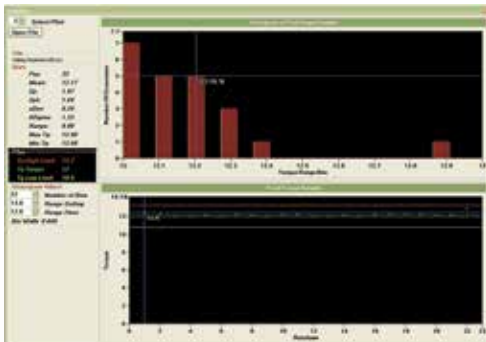
Adding and editing parameter sets is simple with ToolWare Intuitive Parameter Set-up Function.

### CURVEWARE™



With CurveWare™, fast access to torque and angle curves allows the tool and controller to be programmed for optimal performance on any application.

### STATISTICS



Vital statistics and rundown plots can be quickly viewed to assure the assembly process is being performed properly.

### BATCH PROCESSING



Whether simple or complex, batch jobs can be quickly set up using a variety of programming options.

### I/O MONITOR



For testing and visualization of processes, the I/O Monitor feature allows fast and informative observation of the controller's Fixed Logic I/O.

### CALIBRATION MAINTENANCE SCHEDULING



Programmable intervals and alerts provide immediate notice that the tool and/or controller are in need of scheduled preventive maintenance or calibration.

# ACRADYNE® 1000 SERIES NUTRUNNERS

## FEATURES AND BENEFITS

Superior -

- Size
- Speed
- Duty Cycle



Angle



In-line



Push-to-Start



Fixture Rear Exit Cable



Fixture Bottom Exit Cable



## APPLICATION DATA

1000 SERIES	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
<b>ANGLE*</b>											
AEN4C12004B(F)	4		3	1 - 4		0.7 - 3	3,111	2.0		0.91	1/4 Q.C.
AEN4C12009B(F)	9		6.6	2.3 - 9		1.7 - 6.6	1,750	2.2		1.00	3/8 SQ. DR.
AEN4C12014B(F)	14		10.3	3.5 - 14		2.6 - 10.3	875	2.2		1.00	3/8 SQ. DR.
AEN4C12018B(F)	18		13.3	4.5 - 18		3.3 - 13.3	691	2.2		1.00	3/8 SQ. DR.
AEN4C12022B(F)	22		16.2	5.5 - 22		4.1 - 16.2	560	2.2		1.00	3/8 SQ. DR.
<b>IN-LINE**</b>											
AES4A12003BV(Q)	3		2.2	0.8 - 3		0.6 - 2.2	2,625	2.0		0.91	3/8 SQ. DR.
AES4A12006BV(Q)	6		4.4	1.5 - 6		1.1 - 4.4	2,625	2.0		0.91	3/8 SQ. DR.
AES4A12011BV(Q)	11		8.1	2.8 - 11		2 - 8.1	1,313	2.2		1.00	3/8 SQ. DR.
AES4A12014BV(Q)	14		10.3	3.5 - 14		2.6 - 10.3	1,037	2.2		1.00	3/8 SQ. DR.
AES4A12018BV	18		13.3	4.5 - 18		3.3 - 13.3	840	2.2		1.00	3/8 SQ. DR.
AES4A12022BV	22		16.2	5.5 - 22		4.1 - 16.2	656	2.2		1.00	3/8 SQ. DR.
<b>PUSH-TO-START**</b>											
AEL4A12003B(Q)	3		2.2	0.8 - 3		0.6 - 2.2	2,625	2.0		0.91	3/8 SQ. DR.
AEL4A12006B(Q)	6		4.4	1.5 - 6		1.1 - 4.4	2,625	2.0		0.91	3/8 SQ. DR.
AEL4A12011B(Q)	11		8.1	2.8 - 11		2 - 8.1	1,313	2.2		1.00	3/8 SQ. DR.
AEL4A12014B(Q)	14		10.3	3.5 - 14		2.6 - 10.3	1,037	2.2		1.00	3/8 SQ. DR.
AEL4A12018B	18		13.3	4.5 - 18		3.3 - 13.3	840	2.2		1.00	3/8 SQ. DR.
AEL4A12022B	22		16.2	5.5 - 22		4.1 - 16.2	656	2.2		1.00	3/8 SQ. DR.
<b>FIXTURED***</b>											
AEF4(A)(C)(X)12003B(B)	3		2.2	0.8 - 3		0.6 - 2.2	2,625	2.0		0.91	3/8 SQ. DR.
AEF4(A)(C)(X)12006B(B)	6		4.4	1.5 - 6		1.1 - 4.4	2,625	2.0		0.91	3/8 SQ. DR.
AEF4(A)(C)(X)12011B(B)	11		8.1	2.8 - 11		2 - 8.1	1,313	2.2		1.00	3/8 SQ. DR.
AEF4(A)(C)(X)12014B(B)	14		10.3	3.5 - 14		2.6 - 10.3	1,037	2.2		1.00	3/8 SQ. DR.
AEF4(A)(C)(X)12018B(B)	18		13.3	4.5 - 18		3.3 - 13.3	840	2.2		1.00	3/8 SQ. DR.
AEF4(A)(C)(X)12022B(B)	22		16.2	5.5 - 22		4.1 - 16.2	656	2.2		1.00	3/8 SQ. DR.

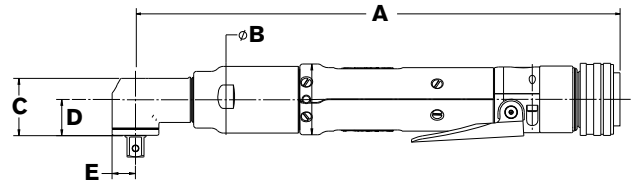
\* Add "F" to part numbers for flush socket.

\*\* Add "Q" to part number for quick change output. "V" indicates extended Ergo-Drive output.

\*\*\* Add "A" to part numbers for 1/2" sliding spindle models. Add "C" to part numbers for 1-3/4" sliding spindle models. Add "X" to part numbers for fixed 3/8" square drive output models.

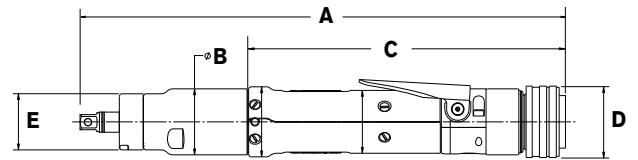


# ACRADYNE® 1000 SERIES NUTRUNNERS



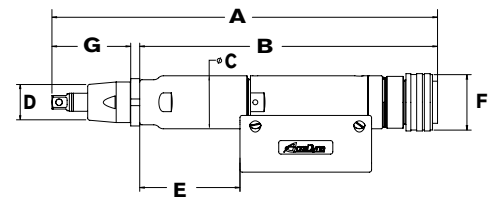
## DIMENSIONS

ANGLE	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AEN4C12004B	11.65		295.9	1.47		37.3	.98		24.8	.62		15.8	.40		10.2
AEN4C12009B(F)	11.00		279.5	1.47		37.3	1.29		32.8	.82		20.9	.52		13.1
AEN4C12014B(F)	11.66		296.4	1.47		37.3	1.29		32.8	.82		20.9	.52		13.1
AEN4C12018B(F)	11.66		296.4	1.47		37.3	1.29		32.8	.82		20.9	.52		13.1
AEN4C12022B(F)	11.66		296.4	1.47		37.3	1.29		32.8	.82		20.9	.52		13.1



## DIMENSIONS

IN-LINE	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AES4A12003BV(Q)	11.12		282.7	1.47		37.3	7.38		187.5	1.59		40.4	1.25		31.8
AES4A12006BV(Q)	11.12		282.7	1.47		37.3	7.38		187.5	1.59		40.4	1.25		31.8
AES4A12011BV(Q)	11.44		290.5	1.47		37.3	7.38		187.5	1.59		40.4	1.25		31.8
AES4A12014BV(Q)	11.44		290.5	1.56		39.6	7.38		187.5	1.59		40.4	1.25		31.8
AES4A12018BV	11.44		290.5	1.47		37.3	7.38		187.5	1.59		40.4	1.25		31.8
AES4A12022BV	11.44		290.5	1.47		37.3	7.38		187.5	1.59		40.4	1.25		31.8
PUSH-TO-START	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AEL4A12003B(Q)	11.31		287.3	1.56		39.6	7.38		187.5	1.59		40.4	1.25		31.8
AEL4A12006B(Q)	11.32		287.4	1.56		39.6	7.38		187.5	1.59		40.4	1.25		31.8
AEL4A12011B(Q)	11.62		295.4	1.56		39.6	7.38		187.5	1.59		40.4	1.25		31.8
AEL4A12014B(Q)	11.62		295.4	1.56		39.6	7.38		187.5	1.59		40.4	1.25		31.8
AEL4A12018B	11.62		295.4	1.56		39.6	7.38		187.5	1.59		40.4	1.25		31.8
AEL4A12022B	11.62		295.4	1.56		39.6	7.38		187.5	1.59		40.4	1.25		31.8



## DIMENSIONS

FIXTURED	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM	IN	(F)	MM	IN	(G)	MM
AEF4A12003B	11.53		292.9	9.10		231.04	1.47		37.3	1.13		28.57	2.06		52.2	1.59		40.4	2.18		55.5
AEF4A12006B	11.53		292.9	9.10		231.04	1.47		37.3	1.13		28.57	2.06		52.2	1.59		40.4	2.18		55.5
AEF4A12011B	12.20		309.8	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	2.18		55.5
AEF4A12014B	12.20		309.8	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	2.18		55.5
AEF4A12018B	12.20		309.8	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	2.18		55.5
AEF4A12022B	12.20		309.8	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	2.18		55.5
AEF4C12003B	15.32		389.2	9.10		231.04	1.47		37.3	1.13		28.57	2.06		52.2	1.59		40.4	5.98		151.8
AEF4C12006B	15.32		389.2	9.10		231.04	1.47		37.3	1.13		28.57	2.06		52.2	1.59		40.4	5.98		151.8
AEF4C12011B	15.99		406.1	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	5.98		151.8
AEF4C12014B	15.99		406.1	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	5.98		151.8
AEF4C12018B	15.99		406.1	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	5.98		151.8
AEF4C12022B	15.99		406.1	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	5.98		151.8
AEF4X12003B	9.35		237.5	9.10		231.04	1.47		37.3	1.13		28.57	2.06		52.2	1.59		40.4	.80		20.4
AEF4X12006B	9.35		237.5	9.10		231.04	1.47		37.3	1.13		28.57	2.06		52.2	1.59		40.4	.80		20.4
AEF4X12011B	10.00		254.4	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	.80		20.4
AEF4X12014B	10.00		254.4	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	.80		20.4
AEF4X12018B	10.00		254.4	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	.80		20.4
AEF4X12022B	10.00		254.4	9.10		231.04	1.47		37.3	1.13		28.57	2.72		69.1	1.59		40.4	.80		20.4

# ACRADYNE® PISTOL GRIP NUTRUNNERS

## FEATURES AND BENEFITS

- Cable configurations available in rear exit, bottom exit, or right angle exit.
- Configured with AcraDyne's multi-function button (MFB) enabling flexibility in operation.
- On board lights and audible signal for operator feedback.



Top Exit Cable



Rear Exit Cable



Bottom Exit Cable

## APPLICATION DATA

1000 SERIES*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AEP4(A)(R)(T)12003B(V)(Q)	3		2.2	0.8 - 3		0.6 - 2.2	2,625	2.2		1.00	3/8 SQ. DR.*
AEP4(A)(R)(T)12006B(V)(Q)	6		4.4	1.5 - 6		1.1 - 4.4	2,625	2.2		1.00	3/8 SQ. DR.*
AEP4(A)(R)(T)12011BV	11		8.1	2.8 - 11		2 - 8.1	1,313	2.3		1.04	3/8 SQ. DR.
AEP4(A)(R)(T)12014BV	14		10.3	3.5 - 14		2.6 - 10.3	1,037	2.3		1.04	3/8 SQ. DR.
AEP4(A)(R)(T)12018BV	18		13.3	4.5 - 18		3.3 - 13.3	840	2.3		1.04	3/8 SQ. DR.
AEP4(A)(R)(T)12022BV	22		16.2	5.5 - 22		4.1 - 16.2	656	2.3		1.04	3/8 SQ. DR.
2000 SERIES*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AEP4(A)(R)(T)22020BV	20		14.8	5 - 20		3.7 - 14.8	1,313	2.4		1.09	3/8 SQ. DR.
AEP4(A)(R)(T)22025B(V)	25		18.4	6.3 - 25		4.6 - 18.4	1,037	2.4		1.09	3/8 SQ. DR.
AEP4(A)(R)(T)22030BV	30		22.0	7.5 - 30		5.5 - 22.0	840	2.4		1.09	3/8 SQ. DR.
AEP4(A)(R)(T)22035BV	35		25.8	8.8 - 35		6.5 - 25.8	747	2.4		1.09	3/8 SQ. DR.
AEP4(A)(R)(T)22040BV	40		29.5	10 - 40		7.4 - 29.5	656	2.4		1.09	3/8 SQ. DR.

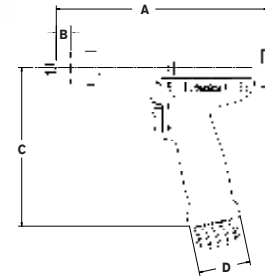
\* Add "Q" to part numbers for 1/4" quick change output standard.

Add "V" to part numbers for extended output.

Add "A" to part numbers for bottom exit cable models.

Add "R" to part numbers for rear exit cable models.

Add "T" to part numbers for top exit cable models.



## DIMENSIONS

1000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM
AEP4(A)(R)(T)12003B(V)(Q)	7.34		186.3	0.54		13.7	6.01		152.6	1.96		49.7
AEP4(A)(R)(T)12006B(V)(Q)	7.34		186.3	0.54		13.7	6.01		152.6	1.96		49.7
AEP4(A)(R)(T)12011BV	8.00		203.3	0.54		13.7	6.01		152.6	1.96		49.7
AEP4(A)(R)(T)12014BV	8.00		203.3	0.54		13.7	6.01		152.6	1.96		49.7
AEP4(A)(R)(T)12018BV	8.00		203.3	0.54		13.7	6.01		152.6	1.96		49.7
AEP4(A)(R)(T)12022BV	8.00		203.3	0.54		13.7	6.01		152.6	1.96		49.7
2000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM
AEP4(A)(R)(T)22020BV	8.66		219.9	0.56		14.2	6.87		174.4	1.96		49.7
AEP4(A)(R)(T)22025B(V)	8.66		219.9	0.56		14.2	6.87		174.4	1.96		49.7
AEP4(A)(R)(T)22030BV	8.66		219.9	0.56		14.2	6.87		174.4	1.96		49.7
AEP4(A)(R)(T)22035BV	8.66		219.9	0.56		14.2	6.87		174.4	1.96		49.7
AEP4(A)(R)(T)22040BV	8.66		219.9	0.56		14.2	6.87		174.4	1.96		49.7

# ACRADYNE® PISTOL GRIP NUTRUNNERS



AEP35075AV  
AEP35090AV  
AEP35110AV  
AEP35135AV  
AEP35170AV

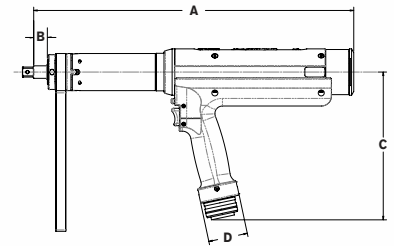


AEP35280A  
AEP35350A  
AEP35420A  
AEP35515A  
AEP35635A

## APPLICATION DATA

5000 SERIES	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AEP35075AV(T)	75		55.4	19 - 75		14 - 55.4	944	9.2		4.17	1/2 SQ. DR.
AEP35090AV(T)	90		66.4	23 - 90		17 - 66.4	767	9.2		4.17	1/2 SQ. DR.
AEP35110AV(T)	110		81.2	28 - 110		20.7 - 81.2	634	9.2		4.17	1/2 SQ. DR.
AEP35135AV(T)	135		99.6	34 - 135		25.1 - 99.6	515	9.2		4.17	1/2 SQ. DR.
AEP35170AV(T)	170		125.5	43 - 170		31.7 - 125.5	418	9.2		4.17	1/2 SQ. DR.
AEP35280A(V)(T)	280		206.6	70 - 280		51.7 - 206.6	236	13.6		6.17	3/4 SQ. DR.
AEP35350A(V)(T)	350		258.3	88 - 350		64.9 - 258.3	192	13.6		6.17	3/4 SQ. DR.
AEP35420A(T)	420		310	105 - 420		77.5 - 310	159	13.6		6.17	3/4 SQ. DR.
AEP35515A(T)	515		380.1	128 - 515		94.5 - 380.1	129	13.6		6.17	3/4 SQ. DR.
AEP35635A(T)	635		468.6	159 - 635		117.3 - 468.6	104	13.6		6.17	3/4 SQ. DR.

Add "V" to part numbers for extended output, Add "T" to part numbers for top exit cable models.



## DIMENSIONS

5000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM
AEP35075AV(T)	15.95		405.2	.68		17.4	7.37		187.1	1.96		49.7
AEP35090AV(T)	15.95		405.2	.68		17.4	7.37		187.1	1.96		49.7
AEP35110AV(T)	15.95		405.2	.68		17.4	7.37		187.1	1.96		49.7
AEP35135AV(T)	15.95		405.2	.68		17.4	7.37		187.1	1.96		49.7
AEP35170AV(T)	15.95		405.2	.68		17.4	7.37		187.1	1.96		49.7
AEP35280A(V)(T)	18.43		468.2	1.11		28.1	7.37		187.1	1.96		49.7
AEP35350A(V)(T)	18.43		468.2	1.11		28.1	7.37		187.1	1.96		49.7
AEP35420A(T)	18.43		468.2	1.11		28.1	7.37		187.1	1.96		49.7
AEP35515A(T)	18.43		468.2	1.11		28.1	7.37		187.1	1.96		49.7
AEP35635A(T)	18.43		468.2	1.11		28.1	7.37		187.1	1.96		49.7

# ACRADYNE® ANGLE NUTRUNNERS

## FEATURES AND BENEFITS

AcraDyne® angle nutrunners provide a solution to space-limited fastening applications that are not practical with inline or pistol model tools. A compact, durable head houses a precision right angle gear set which fits into the tightest of spaces and delivers a highly accurate fastening cycle. Lightweight materials and a uniform body diameter provide a comfortable grip and an ergonomically placed start lever allows for simple control. AcraDyne® angle nutrunners offer the perfect solution for any handheld, precision fastening application.

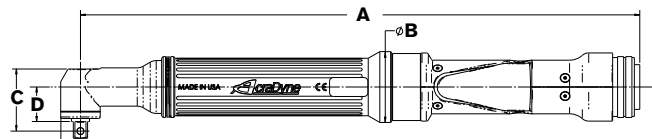


## APPLICATION DATA

2000 SERIES*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AEN32015C(F)(DL)	15		11.0	3 - 12		2.2 - 8.9	1,481	2.7		1.22	3/8 SQ. DR.
AEN32025C(F)(DL)	25		18.0	5 - 20		3.7 - 14.8	833	2.7		1.22	3/8 SQ. DR.
AEN32030C(F)(DL)	30		22.0	6 - 24		4.4 - 17.7	803	2.8		1.27	3/8 SQ. DR.
AEN32040C(F)(DL)	40		29.5	8 - 32		5.9 - 23.6	574	2.8		1.27	3/8 SQ. DR.
3000 SERIES*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AEN33042C(F)(DL)	42		31	9.5 - 38		7 - 28	1,095	4.4		2.00	3/8 SQ. DR.
AEN33053C(F)(DL)	53		39.1	12 - 48		8.9 - 35.4	1,095	4.4		2.00	3/8 SQ. DR.
AEN33060C(F)(DL)	60		44	12 - 48		8.9 - 35.4	845	6.6		2.99	1/2 SQ. DR.
AEN33090C(F)(DL)	90		66	18 - 72		13.2 - 53.1	568	6.6		2.99	1/2 SQ. DR.
AEN33120C(F)(DL)	120		88.5	24 - 96		17.7 - 70.8	442	9.3		4.22	1/2 SQ. DR.
AEN33200C(F)(DL)	200		147.5	40 - 160		29.5 - 118	245	9.4		4.26	3/4 SQ. DR.
AEN33210C(F)(DL)	210		95	50 - 210		36.8 - 154.8	234	10.0		4.54	3/4 SQ. DR.
AEN33300C(F)(DL)	300		221	60 - 240		44.2 - 177	151	10.0		4.54	3/4 SQ. DR.
AEN3375C(F)(DL)	375		277	60 - 240		44.2 - 177	151	10.0		4.54	3/4 SQ. DR.

\* Add "F" to part numbers for flush socket.

Add "DL" to part numbers for double lever.



## DIMENSIONS

2000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AEN32015C	14.61		371	1.85		47	1.37		34.8	.90		22.9	.52		13.1
AEN32025C	14.61		371	1.85		47	1.37		34.8	.90		22.9	.52		13.1
AEN32030C	14.42		366.2	1.85		47	1.65		41.8	1.16		29.4	.70		17.8
AEN32040C	14.42		366.2	1.85		47	1.65		41.8	1.16		29.4	.70		17.8
3000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AEN33042C	16.63		422.33	1.85		47	1.66		42.11	1.17		29.67	.7		17.78
AEN33053C	16.63		422.33	1.85		47	1.66		42.11	1.17		29.67	.7		17.78
AEN33060C	18.92		480.53	1.85		47	1.90		48.36	1.37		34.90	.83		20.96
AEN33090C	18.92		480.53	1.85		47	1.90		48.36	1.37		34.90	.83		20.96
AEN33120C	21.00		533.46	1.85		47	2.78		70.59	2.08		52.81	1.05		26.67
AEN33200C	23.21		589.64	1.85		47	2.59		65.75	1.89		47.98	1.05		26.67
AEN33210C	23.58		598.88	1.85		47	2.90		73.53	1.97		50.04	1.25		31.75
AEN33300C	23.58		598.88	1.85		47	2.90		73.53	1.97		50.04	1.25		31.75
AEN3375C	23.58		598.88	1.85		47	2.90		73.53	1.97		50.04	1.25		31.75

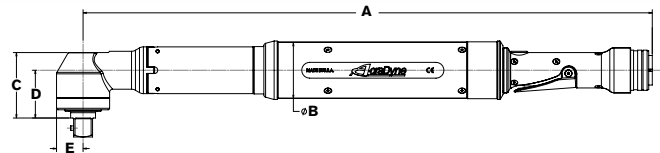
# ACRADYNE® ANGLE NUTRUNNERS



AEN 5000 Series Models

## APPLICATION DATA

5000 SERIES	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AEN35090B(F)	90		66.4	23 - 90		17 - 66.4	607	6.9		3.13	1/2 SQ. DR.
AEN35140B(F)	140		103.3	35 - 140		25.8 - 103.3	472	10.4		4.72	3/4 SQ. DR.
AEN35175B(F)	175		129.1	44 - 175		32.5 - 129.1	384	10.5		4.76	3/4 SQ. DR.
AEN35225B(F)	225		166	56 - 225		41.3 - 166	291	12.3		5.58	3/4 SQ. DR.
AEN35285B(F)	285		210.2	71 - 285		52.4 - 210.2	236	12.3		5.58	3/4 SQ. DR.
AEN35350B(F)	350		258.3	88 - 350		64.5 - 258.3	191	12.3		5.58	3/4 SQ. DR.



## DIMENSIONS

5000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AEN35090B	22.59		573.7	2.31		58.7	1.90		48.4	1.37		34.9	.81		20.6
AEN35140B	22.52		571.9	2.31		58.7	2.59		65.8	1.89		48	1.05		26.7
AEN35175B	22.52		571.9	2.31		58.7	2.59		65.8	1.89		48	1.05		26.7
AEN35225B	22.88		581.1	2.31		58.7	2.90		73.5	1.97		50	1.25		31.8
AEN35285B	22.88		581.1	2.31		58.7	2.90		73.5	1.97		50	1.25		31.8
AEN35350B	22.88		581.1	2.31		58.7	2.90		73.5	1.97		50	1.25		31.8

# ACRADYNE® IN-LINE NUTRUNNERS

## FEATURES AND BENEFITS

AcraDyne® inline nutrunners are the perfect choice for fixtured fastening applications because of their compact size and durability. A uniform body diameter and a hex shaped mounting point allow for simple installation into fixture plates. Simply machine a female hex into a steel plate, insert the nutrunner, secure with the factory supplied nut and your fastening machine is assembled. A reaction bar for use in handheld applications is also included with all AcraDyne® inline nutrunners.



AES 2000 Series Models

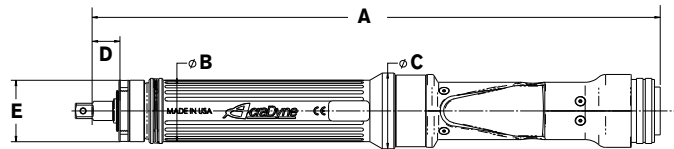
AES 3000 Series Models

## APPLICATION DATA

2000 SERIES*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AES32010CV(Q)	10		7.4	2 - 8		1.5 - 5.9	2,222	2.5		1.13	3/8 SQ. DR.*
AES32020CV(Q)	20		14.8	4 - 16		3.0 - 11.8	1,250	2.5		1.13	3/8 SQ. DR.*
AES32025CV(Q)	25		18.4	5 - 20		3.7 - 14.8	893	3.2		1.45	3/8 SQ. DR.*
AES32038CV	38		28.0	7.5 - 30		5.5 - 22.1	595	4.2		1.91	3/8 SQ. DR.
3000 SERIES*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AES33040CV(-2)	40		29.5	8 - 32		5.9 - 23.6	1,314	6.4		2.90	1/2 SQ. DR.
AES33060CV(-2)	60		44.0	12 - 48		8.9 - 35.4	883	6.4		2.90	1/2 SQ. DR.
AES33100CV(-2)	100		73.8	20 - 80		14.75 - 59.0	489	8.1		3.67	1/2 SQ. DR.
AES33150CV(-2)	150		110.6	30 - 120		22.1 - 88.5	329	8.1		3.67	1/2 SQ. DR.
AES33230CV(-2)	230		169.6	46 - 184		33.9 - 135.7	221	8.1		3.67	1/2 SQ. DR.
AES33400CV(-2)	400		295	80 - 320		59 - 236	122	13.0**		5.90**	3/4 SQ. DR.
AES33600CV(-2)	600		440	120 - 480		89 - 354	82	13.0**		5.90**	3/4 SQ. DR.

\* Add "Q" to part numbers for 1/4" quick change output standard. Add "V" to part numbers for standard spindle models. Add "-2" to part numbers for 2" sliding spindle models.

\*\*Includes reaction bar and fixture nut



## DIMENSIONS

2000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AES32010CV(V)Q	13.85		351.7	1.59		40.4	1.85		47	.56		14.3	1.50		38.1
AES32020CV(V)Q	13.85		351.7	1.59		40.4	1.85		47	.56		14.3	1.50		38.1
AES32025CV(V)Q	13.85		351.7	1.59		40.4	1.85		47	.56		14.3	1.50		38.1
AES32038CV	16.69		424	1.50		38.1	1.85		47	.51		12.9	1.50		38.1
3000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AES33040CV	18.24		463.38	1.94		49.28	1.85		47	.68		17.17	1.85		47
AES33060CV	18.24		463.38	1.94		49.28	1.85		47	.68		17.17	1.85		47
AES33100CV	22.56		572.99	1.94		49.28	1.85		47	.68		17.17	1.85		47
AES33150CV	22.56		572.99	1.94		49.28	1.85		47	.68		17.17	1.85		47
AES33230CV	22.56		572.99	1.94		49.28	1.85		47	.68		17.17	1.85		47
AES33400CV	24.90		532.36	1.94		49.28	1.85		47	1.11		28.08	2.64		67.1
AES33600CV	24.90		532.36	1.94		49.28	1.85		47	1.11		28.08	2.64		67.1

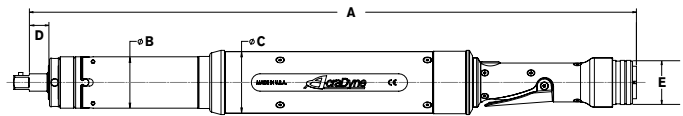
# ACRADYNE® IN-LINE NUTRUNNERS



AES 5000 Series Models

## APPLICATION DATA

5000 SERIES	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AES35075AV	75		55.4	19 - 75		14 - 55.4	944	9.2		4.17	1/2 SQ. DR.
AES35090AV	90		66.4	23 - 90		17 - 66.4	767	9.2		4.17	1/2 SQ. DR.
AES35110AV	110		81.2	28 - 110		20.7 - 81.2	634	9.2		4.17	1/2 SQ. DR.
AES35135AV	135		99.6	34 - 135		25.1 - 99.6	515	9.2		4.17	1/2 SQ. DR.
AES35170AV	170		125.5	43 - 170		31.7 - 125.5	418	9.2		4.17	1/2 SQ. DR.
AES35280A	280		206.6	70 - 280		51.7 - 206.6	236	12.8		5.81	3/4 SQ. DR.
AES35350A	350		258.3	88 - 350		64.9 - 258.3	192	12.8		5.81	3/4 SQ. DR.
AES35420A	420		310	105 - 420		77.5 - 310	159	12.8		5.81	3/4 SQ. DR.
AES35515A	515		380.1	128 - 515		94.5 - 380.1	129	12.8		5.81	3/4 SQ. DR.
AES35635A	635		468.6	159 - 635		117.3 - 468.6	104	12.8		5.81	3/4 SQ. DR.



## DIMENSIONS

5000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AES35075AV	21.86		555.2	1.85		47	2.31		58.7	.68		17.4	1.78		45.2
AES35090AV	21.86		555.2	1.85		47	2.31		58.7	.68		17.4	1.78		45.2
AES35110AV	21.86		555.2	1.85		47	2.31		58.7	.68		17.4	1.78		45.2
AES35135AV	21.86		555.2	1.85		47	2.31		58.7	.68		17.4	1.78		45.2
AES35170AV	21.86		555.2	1.85		47	2.31		58.7	.68		17.4	1.78		45.2
AES35280A	24.22		615.1	2.64		67.1	2.31		58.7	1.11		28.1	1.78		45.2
AES35350A	24.22		615.1	2.64		67.1	2.31		58.7	1.11		28.1	1.78		45.2
AES35420A	24.22		615.1	2.64		67.1	2.31		58.7	1.11		28.1	1.78		45.2
AES35515A	24.22		615.1	2.64		67.1	2.31		58.7	1.11		28.1	1.78		45.2
AES35635A	24.22		615.1	2.64		67.1	2.31		58.7	1.11		28.1	1.78		45.2

# ACRADYNE® FIXTURED NUTRUNNERS



Standard Spindle, Rear Exit Cable



Standard Spindle, Bottom Exit Cable



2" Sliding Spindle, Rear Exit Cable



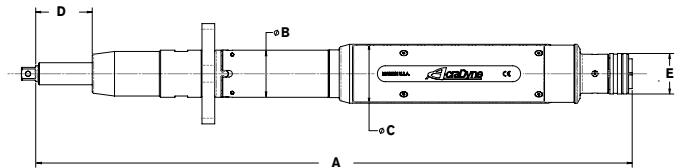
2" Sliding Spindle, Bottom Exit Cable

## APPLICATION DATA

5000 SERIES	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AEF35075A(V)(VB)(-2)(B-2)	75	55.3	19 - 75	14 - 55.3	944	9.6	4.35	1/2 SQ. DR.			
AEF35090A(V)(VB)(-2)(B-2)	90	66.4	23 - 90	17 - 66.4	767	9.6	4.35	1/2 SQ. DR.			
AEF35110A(V)(VB)(-2)(B-2)	110	81.1	28 - 110	20.7 - 81.1	634	9.6	4.35	1/2 SQ. DR.			
AEF35135A(V)(VB)(-2)(B-2)	135	99.6	34 - 135	25.1 - 99.6	515	9.6	4.35	1/2 SQ. DR.			
AEF35170A(V)(VB)(-2)(B-2)	170	125.4	43 - 170	31.7 - 125.4	418	9.6	4.35	1/2 SQ. DR.			

Add "V" to part numbers for standard spindle with rear exit cable models. Add "VB" to part numbers for standard spindle with bottom exit cable models.

Add "-2" to part numbers for 2" sliding spindle with rear exit cable models. Add "B-2" to part numbers for 2" sliding spindle with bottom exit cable models.



## DIMENSIONS

5000 SERIES	IN	(A)	MM	IN	(B)	MM	IN	(C)	MM	IN	(D)	MM	IN	(E)	MM
AEF35075A(V)(VB)	17.67	448.8	1.85	47	2.31	58.7	.72	18.4	1.59	40.4					
AEF35090A(V)(VB)	17.67	448.8	1.85	47	2.31	58.7	.72	18.4	1.59	40.4					
AEF35110A(V)(VB)	17.67	448.8	1.85	47	2.31	58.7	.72	18.4	1.59	40.4					
AEF35135A(V)(VB)	17.67	448.8	1.85	47	2.31	58.7	.72	18.4	1.59	40.4					
AEF35170A(V)(VB)	17.67	448.8	1.85	47	2.31	58.7	.72	18.4	1.59	40.4					
AEF35075A(-2)(B-2)	23.43	595.1	1.85	47	2.31	58.7	2.22	56.4	1.59	40.4					
AEF35090A(-2)(B-2)	23.43	595.1	1.85	47	2.31	58.7	2.22	56.4	1.59	40.4					
AEF35110A(-2)(B-2)	23.43	595.1	1.85	47	2.31	58.7	2.22	56.4	1.59	40.4					
AEF35135A(-2)(B-2)	23.43	595.1	1.85	47	2.31	58.7	2.22	56.4	1.59	40.4					
AEF35170A(-2)(B-2)	23.43	595.1	1.85	47	2.31	58.7	2.22	56.4	1.59	40.4					



# ACRADYNE® SPECIALTY GEARHEADS AND TUBENUT NUTRUNNERS

## FEATURES AND BENEFITS

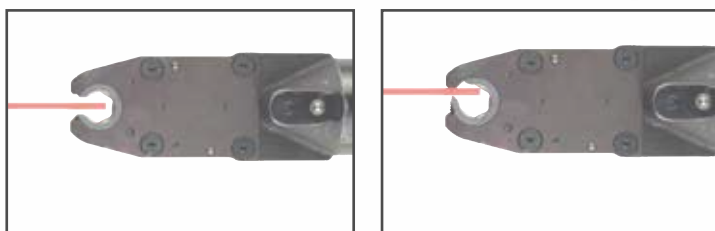
- Patented Safety Algorithm.
- Transducer senses resistance in the initial 90 degrees of rotation and returns to open upon any resistance encountered.
- Proven, durable Tubenut head design.
- Simple, one touch back to open operation for maximum productivity.



AET 2000 Series Model

AET 1000 Series Model

### WITH INNOVATIVE SAFETY SENSOR TECHNOLOGY!



AET 2000 Series Model with Double Levers

## APPLICATION DATA

1000 SERIES*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	IN	OUTPUT RIVE	MM
AET4A12018B	18	13.3	13.3	3.6 - 14.4	2.7 - 10.6	10.6	516	3.1	1.41	1.41	1/4 - 7/16	7 - 12	7 - 12
AET4A12025B	25	18.4	18.4	5 - 20	3.7 - 14.8	14.8	387	3.1	1.41	1.41	3/8 - 5/8	10 - 17	10 - 17
AET4A12025B-KD	25	18.4	18.4	5 - 20	3.7 - 14.8	14.8	387	3.1	1.41	1.41	3/8 - 5/8	10 - 17	10 - 17
2000 SERIES*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	IN	OUTPUT RIVE	MM
AET32020C(DL)	20	14.8	14.8	4 - 16	3.0 - 11.8	11.8	622	3.1	1.41	1.41	1/4 - 7/16	7 - 12	7 - 12
AET32025C(DL)	25	18.4	18.4	5 - 20	3.7 - 14.8	14.8	466	4.0	1.81	1.81	3/8 - 5/8	10 - 17	10 - 17
AET32035C(DL)	35	25.8	25.8	7 - 28	5.2 - 20.7	20.7	347	4.5	2.04	2.04	1/2 - 7/8	13 - 24	13 - 24
AET32050C(DL)	50	36.9	36.9	10 - 40	7.4 - 29.5	29.5	257	5.6	2.54	2.54	5/8 - 1-3/16	17 - 32	17 - 32

\*Add "DL" to part numbers for double levers. Request specific socket size when placing your order. AIMCO offers a wide variety of socket sizes to fit your needs.

## SPECIALTY GEARHEADS

AIMCO is able to provide specialized heads for almost any application. Tubenut, Hold and Drive, Crow Foot, Offsets and Sliding Spindles are just a few of the head styles available. Let us know your requirements and we will help select the head configuration to get the job done.



# ACRADYNE® HOLD & DRIVE NUTRUNNERS

## FEATURES AND BENEFITS

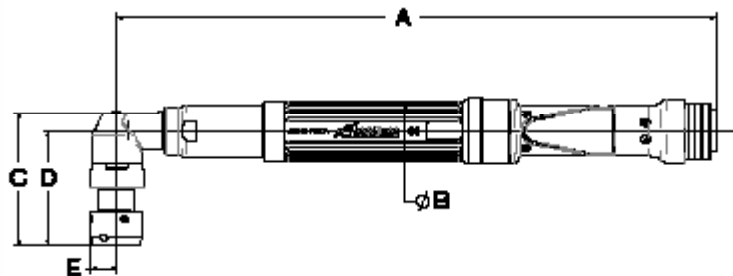
- Torques Ranging from 20Nm – 200Nm.
- Very Robust modern design.
- 1" and 2" travels are standard.
- Sockets and holders are custom to order.



## APPLICATION DATA

MODEL*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	WEIGHT LB		MIN/MAX SOCKET
AEH4F12020B(-1.2)	20		14.75	4 - 16		3.0 - 11.8	533	-1=2.8, -2=3.0		9/16 (14MM) / 13/16, (21MM)
AEH4F12026B(-1.2)	26		19.18	5.2 - 20.8		3.8 - 15.4	432	-1=2.8, -2=3.1		9/16 (14MM) / 13/16, (21MM)
AEH32025B(-1.2)	25		18.44	5 - 20		3.7 - 14.8	833	-1 = 3.5, -2 = 3.5		9/16 (14MM) / 13/16, (21MM)
AEH32030C(-1.2)	30		22.13	6 - 24		4.4 - 17.7	803	-1 = 3.5, -2 = 3.6		9/16 (14MM) / 13/16, (21MM)
AEH32040C(-1.2)	40		29.50	8 - 32		5.9 - 23.6	574	-1 = 3.5, -2 = 3.7		9/16 (14MM) / 13/16, (21MM)
AEH33053C(-1.2)	53		39.09	12 - 48		8.9 - 35.4	1,095	-1=5.6, -2=5.8		9/16 (14MM) / 13/16, (21MM)
AEH33060C(-1.2)	60		44.25	12 - 48		8.9 - 35.4	845	-1=7.3, -2=7.5		5/8 (16MM) / 1-1/4, (32MM)
AEH33090C(-1.2)	90		66.38	18 - 72		13.2 - 53.1	568	-1=7.3, -2=7.6		5/8 (16MM) / 1-1/4, (32MM)
AEH33120C(-1.2)	120		88.51	24 - 96		17.7 - 70.8	442	-1=10.0, -2=10.3		5/8 (16MM) / 1-1/4, (32MM)
AEH33200C(-1.2)	200		147.51	40 - 160		29.5 - 118	245	-1=10.0, -2=10.4		5/8 (16MM) / 1-1/4, (32MM)
AEH35090B(-1.2)	90		66.38	23 - 90		17.0 - 66.4	607	-1=7.4, -2=7.6		5/8 (16MM) / 1-1/4, (32MM)
AEH35140B(-1.2)	140		103.26	35 - 140		25.8 - 103.3	472	-1=10.6, -2=11.0		5/8 (16MM) / 1-1/4, (32MM)
AEH35175B(-1.2)	175		129.1	44 - 175		32.5 - 129.1	384	-1=10.6, -2=11.1		5/8 (16MM) / 1-1/4, (32MM)

\* Add "1" to part numbers for 1" travel. Add "2" to part numbers for 2" travel.



## DIMENSIONS\*

MODEL	IN	(A)	MM	IN	(B)	MM	IN	(C)*	MM	IN	(D)*	MM	IN	(E)	MM
AEH4F12020B-1	14.59		370.7	1.59		40.4	3.72		94.4	3.17		80.6	.76		19.3
AEH4F12026B-1	14.59		370.7	1.59		40.4	3.72		94.4	3.17		80.6	.76		9.3
AEH32025B-1	14.59		370.7	1.85		47	3.72		94.4	3.17		80.6	.76		19.3
AEH32030C-1	14.59		370.7	1.85		47	3.72		94.4	3.17		80.6	.76		19.3
AEH32040C-1	14.59		370.7	1.85		47	3.72		94.4	3.17		80.6	.76		19.3
AEH33053C-1	16.79		426.5	1.85		47	3.72		94.4	3.17		80.6	.76		19.3
AEH33060C-1	18.92		480.53	1.96		49.8	4.04		102.5	3.37		85.66	.94		23.9
AEH33090C-1	18.92		480.53	1.96		49.8	4.04		102.5	3.37		85.66	.94		23.9
AEH33120C-1	21.00		533.49	1.96		49.8	4.87		123.66	4.09		103.82	1.13		28.6
AEH33200C-1	23.21		589.5	1.96		49.8	4.87		123.66	4.09		103.82	1.13		28.6
AEH35090B-1	22.88		581.1	2.31		58.7	4.19		106.46	3.58		91.02	1.13		28.6
AEH35140B-1	22.52		572.0	2.31		58.7	4.87		123.66	4.09		103.82	1.13		28.6
AEH35170B-1	22.52		572.0	2.31		58.7	4.87		123.66	4.09		103.82	1.13		28.6

\* 1" travel only

# ACRADYNE® MID-EXIT CABLE NUTRUNNERS

## FEATURES AND BENEFITS

- **Length**
  - The tool's length is reduced by the cable exiting in front of the grip surface for the operator's hand.
- **Ergonomics**
  - Torque reaction is reduced relative to pistol style tools.
  - The hand is positioned farther away from the application for more leverage. This is maximized by the cable being in front of the hand.
  - The handle is inline putting less stress on the wrist.
- **Cable management**
  - If used with a spring balancer the tool hangs naturally near it's center of gravity and the cable can be controlled by the balancer.
  - The position of the cable in front can make it easier for the operator to manage the cable. This is especially beneficial where one plane has length constraints and at 90° is free from obstruction (vertical for Doors-On).



Patent Pending

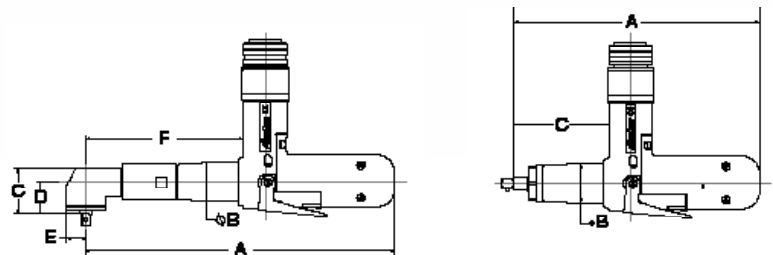


Specialized heads and blades available by request.

## APPLICATION DATA

MODEL*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT (-) SOCKET	KG	OUTPUT DRIVE
AEN4C22015BM(F)	15	11.06	11.06	3.75 - 15	2.77 - 11.06	700	2.6	1.18	3/8 SQ. DR.		
AEN4D22023BM(F)	23	16.96	16.96	5.75 - 23	4.24 - 16.96	750	2.9	1.32	3/8 SQ. DR.		
AEN4D22029BM(F)	29	21.39	21.39	7.25 - 29	5.35 - 21.39	592	2.9	1.32	3/8 SQ. DR.		
AEN4D22035BM(F)	35	25.81	25.81	8.75 - 35	6.45 - 25.81	480	2.9	1.32	3/8 SQ. DR.		
AEN4F22030BM(F)	30	22.13	22.13	7.5 - 30	5.53 - 22.13	675	3.3	1.50	3/8 SQ. DR.		
AEN4F22037BM(F)	37	29.29	29.29	9.25 - 37	6.82 - 29.29	533	3.3	1.50	3/8 SQ. DR.		
AEN4F22044BM(F)	44	32.46	32.46	11 - 40	8.11 - 29.50	432	3.3	1.50	3/8 SQ. DR.		
AES4A22020BVM	20	14.8	14.8	5 - 20	3.7 - 14.8	1050	2.4	1.09	3/8 SQ. DR.		
AES4A22025BVM	25	18.4	18.4	6.3 - 25	4.6 - 18.4	830	2.4	1.09	3/8 SQ. DR.		
AES4A22030BVM	30	22.0	22.0	7.5 - 30	5.5 - 22.0	672	2.4	1.09	3/8 SQ. DR.		
AES4A22040BVM	40	29.5	29.5	10 - 40	7.4 - 29.5	525	2.4	1.09	3/8 SQ. DR.		

\* Add "F" to part numbers for flush socket.



## DIMENSIONS

	IN (A)	MM	IN (B)	MM	IN (C)	MM	IN (D)	MM	IN (E)	MM	IN (F)	MM
AEN4C22015BM	9.02	229.1	1.47	37.3	1.29	32.8	.82	20.9	.52	13.1	5.53	140.4
AEN4D22023BM	11.1	280.3	1.47	37.3	1.42	36.1	.92	23.4	.56	14.1	5.67	144.1
AEN4D22029BM	11.1	280.3	1.47	37.3	1.42	36.1	.92	23.4	.56	14.1	5.67	144.1
AEN4D22035BM	11.1	280.3	1.47	37.3	1.42	36.1	.92	23.4	.56	14.1	5.67	144.1
AEN4F22030BM	11.24	285.6	1.47	37.3	1.66	42.1	1.17	29.7	.70	17.8	5.73	145.6
AEN4F22037BM	11.24	285.6	1.47	37.3	1.66	42.1	1.17	29.7	.70	17.8	5.73	145.6
AEN4F22044BM	11.24	285.6	1.47	37.3	1.66	42.1	1.17	29.7	.70	17.8	5.73	145.6
AES4A22020BVM	9.0	228.1	1.47	37.3	3.49	88.6						
AES4A22025BVM	9.0	228.1	1.47	37.3	3.49	88.6						
AES4A22030BVM	9.0	228.1	1.47	37.3	3.49	88.6						
AES4A22040BVM	9.0	228.1	1.47	37.3	3.49	88.6						

# ACRADYNE® RIV-NUT NUTRUNNERS

## FEATURES AND BENEFITS

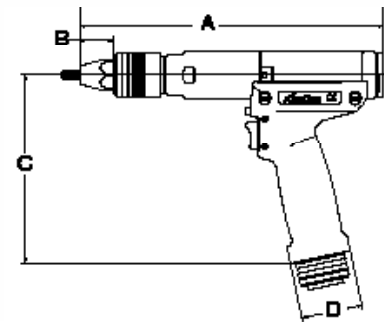
- Top and Rear exit cable are standard.
- Straight, Fixtured and Push to Start models are available by request.



## APPLICATION DATA

MODEL*	NM	MAX TORQUE	FT-LB	NM	TORQUE RANGE	FT-LB	FREE SPEED RPM	LB	WEIGHT	KG	OUTPUT DRIVE
AEP4(A,R,T)12006BR	6		4.4	1.5 - 6		1.1 - 4.4	2,625	2.2	1.00		3/8 SQ. DR.
AEP4(A,R,T)12011BR	11		8.1	2.8 - 11		2 - 8.1	1,313	2.3	1.04		3/8 SQ. DR.
AEP4(A,R,T)12014BR	14		10.3	3.5 - 14		2.6 - 10.3	1,037	2.3	1.04		3/8 SQ. DR.
AEP4(A,R,T)12018BR	18		13.3	4.5 - 18		3.3 - 13.3	840	2.3	1.04		3/8 SQ. DR.
AEP4(A,R,T)12022BR	22		16.2	5.5 - 22		4.1 - 16.2	656	2.3	1.04		3/8 SQ. DR.
AEP4(A,R,T)22020BR	20		14.8	5 - 20		3.7 - 14.8	1,313	2.4	1.09		3/8 SQ. DR.
AEP4(A,R,T)22025BR	25		18.4	6.3 - 25		4.6 - 18.4	1,037	2.4	1.09		3/8 SQ. DR.
AEP4(A,R,T)22030BR	30		22.0	7.5 - 30		5.5 - 22.0	840	2.4	1.09		3/8 SQ. DR.
AEP4(A,R,T)22040BR	40		29.5	10 - 40		7.4 - 29.5	656	2.4	1.09		3/8 SQ. DR.

\* Add "A" to part numbers for bottom exit cable models, Add "R" to part numbers for rear exit cable models, Add "T" to part numbers for top exit cable models.



## DIMENSIONS

MODEL	IN	(A)	MM	IN	(B)	MM	IN	(C)*	MM	IN	(D)*	MM
AEP4(A,R,T)12006BR	9.68		245.9	1.05		26.7	6.87		174.5	1.96		49.8
AEP4(A,R,T)12011BR	9.68		245.9	1.05		26.7	6.87		174.5	1.96		49.8
AEP4(A,R,T)12014BR	9.68		245.9	1.05		26.7	6.87		174.5	1.96		49.8
AEP4(A,R,T)12018BR	9.68		245.9	1.05		26.7	6.87		174.5	1.96		49.8
AEP4(A,R,T)12022BR	9.68		245.9	1.05		26.7	6.87		174.5	1.96		49.8
AEP4(A,R,T)22020BR	10.18		258.6	1.05		26.7	6.87		174.5	1.96		49.8
AEP4(A,R,T)22025BR	10.18		258.6	1.05		26.7	6.87		174.5	1.96		49.8
AEP4(A,R,T)22030BR	10.18		258.6	1.05		26.7	6.87		174.5	1.96		49.8
AEP4(A,R,T)22040BR	10.18		258.6	1.05		26.7	6.87		174.5	1.96		49.8

# ACRADYNE® HIGH TORQUE TOOLS

## FEATURES AND BENEFITS

Critical high torque assembly and bolting applications demand tools that will deliver torque with superior performance and durability. The precision design of the HT Series from AcraDyne combines these features in an electric tool that beats the competition on productivity and ergonomics. AcraDyne's transducer torque control system provides consistent, reliable torque values as well as the ability to monitor rotational angle during the tightening process. When combined with AcraDyne's Controllers, customers have a high torque critical bolting system that can handle the toughest and most important bolting jobs. The faster speed, coupled with its extreme accuracy, makes this bolting system an outstanding cost effective investment.

- Transducerized closed-loop control, NOT current control like most High Torque products available.
- One of the only high torque tools in the world with the transducer at the output.
- Torque is measured at the output, not before the gearing like competing products.
- No effect on results caused by gear wear like all other tools available.
- The torque reported is the torque delivered to the fastener.
- Most accurate high torque tools in the world.
- Up to three times faster than the competition.
- Interchangeable Tools, Cables and Controllers – Calibrations are specific to the tool not the system as a whole.
- Universal Controller for all AcraDyne® tools.
- On-tool LEDs for Accept / Reject signals.
- Designed and **MADE IN THE USA.**



PISTOL TYPE  
(AEP)



REAR MOUNTED PISTOL  
(AED)



AXIAL TYPE  
(AEJ)



FIXTURED TYPE  
(AEF)



STRAIGHT LEVER TYPE  
(AES)



MODEL* (handle type)	SERIES	APPROX. TORQUE		APPROX. SPEED rpm	WEIGHT		LENGTH		DIA.		DRIVE in	SOUND LEVEL dB(A)
		Nm	ft-lb		kg	lb	mm	in	mm	in		
( )4(A)(B)66500A	6000	500	370	106	5.7	12.5	299	11.8	66	2.6	0.75	66
( )4(A)(B)66750A	6000	750	550	72	5.7	12.5	299	11.8	66	2.6	0.75	66
( )4(A)(B)771000A	7000	1,000	750	65	5.7	12.5	292	11.5	76	3.0	1	66
( )4(A)(B)772500A	7000	2,500	1,850	25	8.1	18	328	12.9	76	3.0	1	66
( )4(A)(B)884100A1	8000	4,100	3,000	12	12.3	27	376	14.8	86	3.6	1	66
( )4(A)(B)884100A	8000	4,100	3,000	12	12.3	27	376	14.8	86	3.6	1.5	66
( )4(A)(B)885000A	8000	5,000	3,700	9	12.3	27	376	14.8	86	3.6	1.5	66
( )4A896500A	8000/9000	6,500	4,800	7	15	34	457	18	101	4.0	1.5	66
( )4(A)(B)898100A**	8000/9000	8,100	6,000	5	15	34	457	18	101	4.0	1.5	66

\*Add "A" to part numbers for fixed gearcase models. Add "B" to part numbers for clutched gearcase models. For fixtured type, add "B" to part numbers for bottom exit cable.

\*\*Under development

# ACRADYNE® HT RIGHT ANGLE AND GEARHEAD TOOLS

## FEATURES AND BENEFITS

- Custom made to fit virtually any application.
- Same high durability gearing as on AcraDyne's standard HT Series of tools.
- Model types available:
  - HT Right Angle tools
  - HT Offset Gearhead tools
  - HT Right Angle with Offset Head
- Torque ranges from 400Nm to 4650Nm.
- Right angle air tools to 2500Nm also available.



# ACRADYNE® HIGH TORQUE TOOLS

## CABLES

Newly designed cable and connectors for excellent ergonomics, maximum-quality signal transfer, and full CE compliance.

\*For use with 1000 and 2000 Series tools only.

MODEL	LENGTH
24330	3 meter
25350	5 meter
24320	10 meter
27110	3 meter, lightweight*
27115	5 meter, lightweight*
27122	10 meter, lightweight*



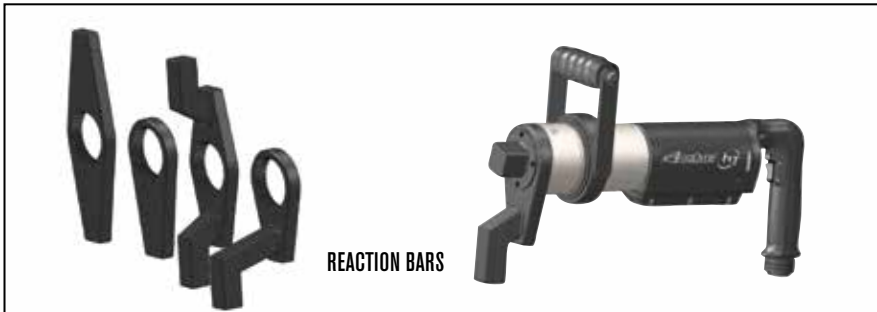
## BREAKAWAY CABLE CONNECTOR

Ensures disconnect of cable should stress in excess of 40 lbs occur.



## REACTION BARS

Each tool includes a standard spline-attachment reaction device. Custom reaction devices are also available; contact your AIMCO sales representative for more details, 1-800-852-1368.



MODEL	DESCRIPTION
26810	Single Ended, Flat, 6000 Series
26815	Single Ended, Standard Offset, 6000 Series
26830	Double Ended, Flat, 6000 Series
26835	Double Ended, Standard Offset, 6000 Series
26800	Single Ended, Flat, 7000 Series
27200	Single Ended, Standard Offset, 7000 Series
26820	Double Ended, Flat, 7000 Series
26825	Double Ended, Standard Offset, 7000 Series
25277	Single Ended, flat, 8000 Series
25274	Single Ended, 3.35" offset, 8000 Series
25275	Single Ended, 4.00" offset, 8000 Series
25278	Double Ended, flat, 8000 Series
25276	Double Ended, 3.35" offset, 8000 Series
27255	Single Ended, flat, 9000 Series
26840	Single Ended, 3.35" offset, 9000 Series

## ACCESSORIES

Custom accessories are also available for your application; contact your AIMCO sales representative for more details, 1-800-852-1368.



MODEL	DESCRIPTION
26477	Swivel Bail Assembly, 6000 Series
26478	Swivel "D" Handle Assembly, 6000 Series
26479	Stationary Bail Assembly, 6000 Series
26337	Rear Fixed Hoist Ring Sub-Assembly, 7000/8000 Series
26327	Swivel Bail Assembly, 7000 Series
26328	Swivel "D" Handle Assembly, 7000 Series
26336	Fixed Handle Sub-Assembly, 7000 Series
26337	Rear Fixed Hoist Ring Sub-Assembly, 7000 Series
25291	Swivel Handle, 8000 Series
25287	Swivel Bail Hoist, 8000 Series
25497	Rear fixed hoist ring, 8000 Series
25289	Fixed hoist (handle not included), 8000 Series
25280	Auxiliary Handle, 8000 Series
26822	Mounting Flange, 7000 Series
27045	Sliding Spindle, 7000 Series

# DC TOOLS: TOOL/SPINDLE SELECTION GUIDE

MODEL	RPM	LENGTH		WEIGHT		TORQUE, Nm																			
		in	mm	lb	kg	5	10	15	20	25	50	75	100	125	150	175	200	225	250	275	300	325	350	375	400
<b>ANGLE</b>																									
AEN4C12004B	3,111	11.65	295.9	2.0	0.91																				
AEN4C12009B	1,750	11.00	279.5	2.2	0.91																				
AEN4C12014B	875	11.66	296.4	2.2	1.00																				
AEN4C12018B	691	11.66	296.4	2.2	1.00																				
AEN4C12022B	560	11.66	296.4	2.2	1.00																				
AEN32015B	1481	14.8	376.7	2.7	1.22																				
AEN32025B	833	14.8	376.7	2.7	1.22																				
AEN32030B	803	14.6	371.9	2.8	1.27																				
AEN32040B	574	14.6	371.9	2.8	1.27																				
AEN33042B	1,095	16.6	422.3	4.4	2.00																				
AEN33053B	1,095	16.6	422.3	4.4	2.00																				
AEN33060B	845	19.1	485.7	6.6	2.99																				
AEN33090B	568	19.1	485.7	6.6	2.99																				
AEN33120B	442	21.2	539.0	9.3	4.22																				
AEN33200B	245	23.4	594.4	9.4	4.26																				
AEN33300B	151	23.8	603.8	10.0	4.54																				
AEN35090B	607	22.6	573.7	6.9	3.13																				
AEN35140B	472	22.5	571.9	10.4	4.72																				
AEN35175B	384	22.5	571.9	10.5	4.76																				
AEN35225B	291	22.9	581.1	12.3	5.58																				
AEN35285B	236	22.9	581.1	12.3	5.58																				
AEN35350B	191	22.9	581.1	12.3	5.58																				
<b>INLINE</b>																									
AES4A12003B_	2,625	11.12	282.7	2.0	0.91																				
AES4A12006B_	2,625	11.12	282.7	2.0	0.91																				
AES4A12011BV	1,313	11.44	290.5	2.2	1.00																				
AES4A12014BV	1,037	11.44	290.5	2.2	1.00																				
AES4A12018BV	840	11.44	290.5	2.2	1.00																				
AES4A12022BV	656	11.44	290.5	2.2	1.00																				
AES32010B_	2222	14.3	363.7	2.5	1.13																				
AES32020B_	1250	14.3	363.7	2.5	1.13																				
AES32025B_	893	14.3	363.7	3.2	1.45																				
AES32038BV	595	17.2	435.9	4.2	1.91																				
AES33040BV	1314	18.7	475.7	6.4	2.90																				
AES33060BV	883	18.7	475.7	6.4	2.90																				
AES33100BV	489	23.1	585.7	8.1	3.67																				
AES33150BV	329	23.1	585.7	8.1	3.67																				
AES33230BV	221	23.1	585.7	8.1	3.67																				
AES33400BV	122	25.5	647.7	13.0*	5.90*																				
AES33600BV**	82	25.5	647.7	13.0*	5.90*																				
AES35075BV	944	21.9	555.2	9.2	4.17																				
AES35090BV	767	21.9	555.2	9.2	4.17																				
AES35110BV	634	21.9	555.2	9.2	4.17																				
AES35135BV	515	21.9	555.2	9.2	4.17																				
AES35170BV	418	21.9	555.2	9.2	4.17																				
AES35280B	236	24.2	615.1	12.8	5.81																				
AES35350B	192	24.2	615.1	12.8	5.81																				
AES35420B	159	24.2	615.1	12.8	5.81																				
AES35515B***	129	24.2	615.1	12.8	5.81																				
AES35635B****	104	24.2	615.1	12.8	5.81																				

\*Includes reaction bar and fixture nut.

\*\*Torque Range: 120-480 Nm Max Torque: 600 Nm

\*\*\* Torque Range: 128-515 Nm \*\*\*\*Torque Range: 159-635 Nm

Recommended Torque Range

Max Torque



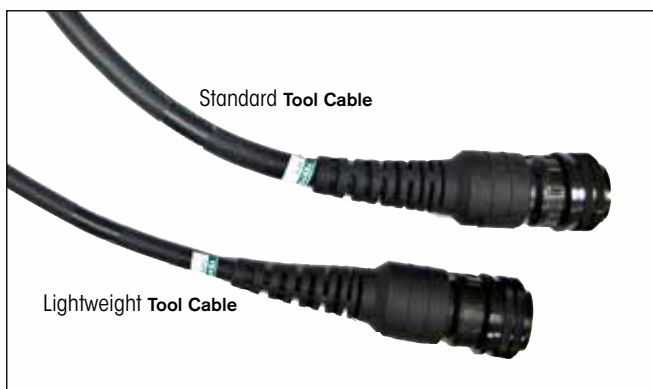


# ACRADYNE® ACCESSORIES

## CABLE ASSEMBLIES

The AcraDyne® DC electric nutrunner tool system uses a single cable to carry all necessary conductors for superior ergonomics and durability.

- Flexible polyurethane cover for maximum durability, abrasion and transmission fluid resistant.
- Quick disconnects at both ends facilitate tool changeover and troubleshooting.
- The CAN data/signal is via RJ45 for products such as the KDM, socket tray or computer.



MODEL	DESCRIPTION	LENGTH	
		m	ft
<b>TOOL CABLES</b>			
24330	Cable G3 Tool Cable 3M	3	9.8
25350	Cable G3 Tool Cable 5M	5	16.4
24320	Cable G3 Tool Cable 10M	10	32.8
27110	Cable G3 Tool Cable 3M Lightweight*	3	9.8
27115	Cable G3 Tool Cable 5M Lightweight*	5	16.4
27122	Cable G3 Tool Cable 10M Lightweight*	10	32.8
25646	G1 iEC to G3 Cable Adapter		
26934	G3 iEC to G1 Cable Adapter		
27210	G3 Tool to G1 Cable Adapter		
26364	Right Angle Cable Adapter		
26709	G3 Tool to G1 Cable (Cable Tester only)		
26700	Cable Tester Unit, G3		
26594	Conversion Kit G1 iEC to G3 iEC		
27370	Conversion Kit G3 iEC to G1 iEC		
25491	Breakaway Cable Connector – Ensures disconnect of cable should stress in excess of 40 lbs occur *Lightweight cables are for use only with 1000 & 2000 Series tools.		
<b>EXTENSION</b>			
24320	Extension cable 10M	10	32.8
25518	Extension cable 20M	20	65.6
<b>DATA</b>			
20403	Data/signal connection cable – Accessories to controller	2.0	7
23490	I/O Wiring Connector – Simple Module to facilitate connections to I/O on IEC Controllers		
AEC-CIM	Interface module which allows communication between a computer and an AcraDyne® controller through USB or CAN connections. All necessary cables included.		

# ACRADYNE® ACCESSORIES

## KEYPAD DISPLAY MODULE (KDM)

- For tool setup, statistical display, and basic diagnostics, can be built-in, handheld, or remotely mounted.
- For remote mounting. Connects to AcraDyne® controllers via 20403 data cable (Can only be used by connection to a controller).



## SOCKET TRAY

- Simply remove the assigned socket to select the application to be run.
- Quick and easy set up. Parameters assigned to socket position automatically.
- Optional self illuminating socket receptacles.
- Delrin® blanks may be easily machined by the customer to accommodate custom socket profiling.
- Nothing to break, wear out or maintain.
- Proximity sensors detect presence of socket.



MODEL	DESCRIPTION
AMPST-2-I	2 Position Socket Tray for iEC Controllers
AMPST-4-I	4 Position Socket Tray for iEC Controllers
AMPST-6S-I	6 Position Socket Tray for iEC Controllers, Straight Line
AMPST-6-I	6 Position Socket Tray for iEC Controllers
AMPST-8-I	8 Position Socket Tray for iEC Controllers

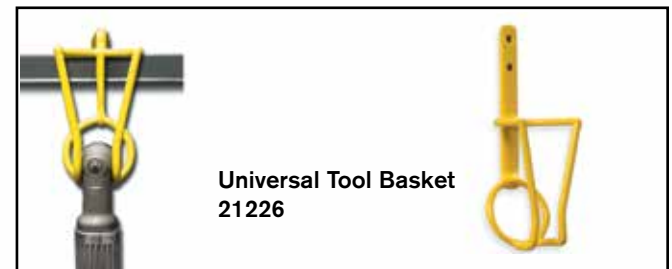
## TOOL BAILS

- AcraDyne's spring bails are designed for use with any of the AcraDyne® 1000, 2000 or 3000 Series tools.
- The spring bails snap on quickly and firmly at any place on the body of the tool for perfect balance and secure suspension.



MODEL	DESCRIPTION
25501	Wire Bail for 1000-Series Tools
26568	Cable Bail to Hang Tool Vertically for GenIII Cables
21159	2000/3000 Vertical Tool Hanger for Gen1 Tools
21208	Spring Bail for 2000-Series Tools
23662	Rotating Bail for 2000-Series Tools
23575	Rotating Bail for 3000-Series Tools

## UNIVERSAL TOOL BASKET



## SLIDING SPINDLES



MODEL	DESCRIPTION
20712	Sliding Spindle 2" Stroke 2000 Series Tools
20848	Sliding Spindle 2" Stroke 3000 Series Tools

# ACRADYNE® ACCESSORIES

## TORQUE TUBES

- Made to order Torque Tubes to suit the specific application.
- Counteract torque reactive forces.
- Suspend from a variety of options.
- Pneumatic Counter Balance with high resolution adjustments.
- Quick and easy quotation process.

### Support Mounting Options



Double Clevis

Single Clevis

Flat Clevis

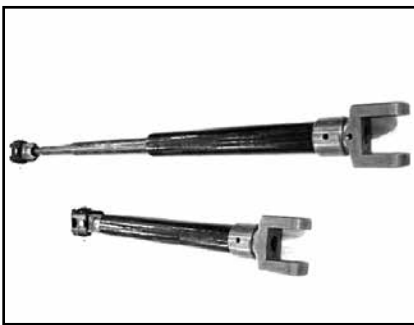
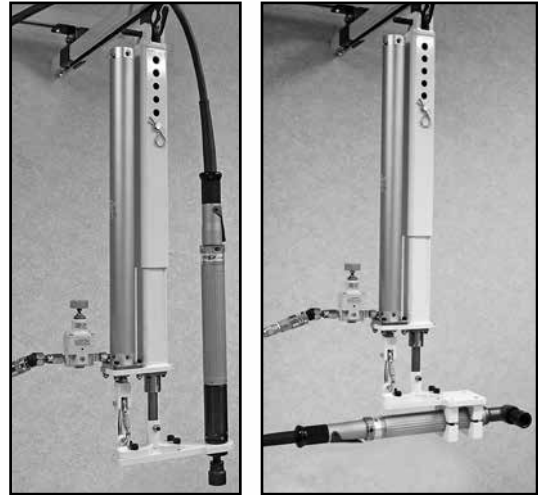
### Tool Mounting Options



Square Plate

Vertical Tool

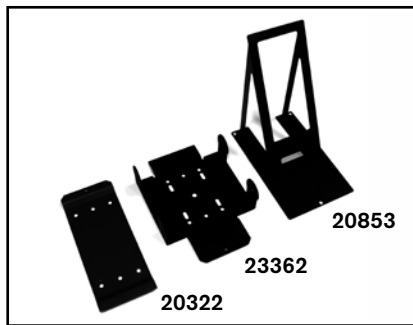
Horizontal Tool



## CARBON ARMS

- With the Carbon Torque Arm, the assembly operation will be smooth and comfortable since the arm is absorbing the torque reaction generated by the tool.
- The Carbon Arm is ergonomic and easy to use due to the telescopic design that allows maximum movement and flexibility.
- Extremely durable and requires no maintenance.

MODEL	DESCRIPTION
CLR55-1230	55Nm, Max Length 1230 mm
CLR55-2000	55Nm, Max Length 1800 mm
CLR55-2500	55 Nm, Max Length 2430 mm
CLR100-1230	100 Nm, Max Length 1230 mm
CLR100-2000	100 Nm, Max Length 1800 mm
CLR100-2500	100 Nm, Max Length 2430 mm
CLR150-1230	150 Nm, Max Length 1230 mm
CLR150-2000	150 Nm, Max Length 1800 mm
CLR150-2500	150 Nm, Max Length 2430 mm
CLR220-1230	220 Nm, Max Length 1230 mm
CLR220-2000	220 Nm, Max Length 1800 mm
CLR220-2500	220 Nm, Max Length 2430 mms



## CONTROLLER BRACKETS

MODEL	DESCRIPTION
20322	Wall Plate Bolts to wall allows controller bracket (23362) to hang without hard fastening
23362	Controller Bracket Included with all iEC and iControl AcraDyne Controllers. Bolts to wall or hang of optional Wall Plate (20322)
20853	Table Stand Free standing platform enables Controller Bracket (23362) to simply hang from.

## MOUNTING BRACKETS

MODEL	DESCRIPTION
25717	Mounting Bracket for 1000-Series Angle Tools
25843	Mounting Bracket for 1000-Series Push-To-Start Tools
26443	Mounting Bracket for Straight and Pistol 1000/2000-Series
24924	Mounting Flange for Straight and Pistol 1000/2000-Series
25718	Mounting Bracket for 3000/5000-Series Angle Tools
26570	Mounting Bracket for 3000/5000-Series Straight Tools
25265	Anglehead Mounting Bracket (Cradle type) for 3000/5000 Angle Tools over 225Nm



## TOOL BODY JACKETS

Keep your tools protected and avoid accidental damage to the application with AIMCO's tool body jackets.

MODEL	DESCRIPTION
BJ10051	For 1000 series angle tools
BJ10052	For 2015, 2025 series angle tools
BJ10053	For 2030, 2040, 2055 series angle tools
BJ10054	For 3060, 3090 series angle tools
BJ10055	For 3120, 3200 series angle tools

## BARCODE READER



MODEL	DESCRIPTION
LS4208	RS232 Barcode Reader Kit
LS4278	RS232 Wireless Barcode Reader Kit

## LIGHT TOWER





## MULTIPLE NUTRUNNING SYSTEMS

AIMCO is able to integrate the AcraDyne® tool spindle into a customized Multiple Nutrunning System. From simple systems vertically suspended above the part to assembly stations that integrate with your line, AIMCO can handle your project.

**LET US KNOW YOUR REQUIREMENTS AND WE WILL PROPOSE A SOLUTION TAILORED TO YOUR NEEDS.**



## SMALL ENGINE MANUFACTURER

- Air cooled small vehicle engine assembly.
- Ten spindle 2.4–2.8 kgf-m
- Integrated PLC control of system functions.
- Supplied overhead rail follows line and returns powerhead to home position.
- Powerhead features single lever control and visual confirmation of accepted torque.

## FEATURES AND BENEFITS

- Nutrunner sequencing - Allows nutrunners to be sequenced at each phase of the tightening process allowing even distribution of torque and load to each fastener.
- Even torque distribution - Where there is uneven torque distribution, part damage or distortion could occur with possible fastener failure or loss of residual clamp load.
- Snug, threshold, final torque in one pass - No need for multiple torque stage sequencing as with a single nutrunner tool. Fixtured nutrunners save time and effort from start to finish.
- No missed fasteners - With multiple nutrunners there is a spindle dedicated to each location, ensuring quality on every rundown on every bolt.
- Better residual torques - Synchronized controlled fastening allows residual torque levels to be consistent with the dynamic torque specification.
- Saving in cycle time - Compared to using a single nutrunner tool with many rundowns, running all fasteners simultaneously reduces in-station cycle time.
- Cost saving benefits - Saving installation cycle time frees operators to handle additional tasks and potentially reduce labor requirements, while eliminating bottle necks.
- Collect data – Most common methods of collecting data for quality control and statistical analysis can be implemented from serial data string using RS232 to formatted data from a network database.

## ENGINE MANUFACTURER

- Gasoline generator assembly.
- Six spindle 30 Nm
- Replaced hand assembly with rotation pattern to simultaneous rundown.

## AUTOMOTIVE MANUFACTURER

- Wheel lug nut assembly.
- Four spindle 105 Nm
- Rotating spindle trunnion.
- Replaced competitive system.
- Built-in PC for data storage.
- Custom display panel showing application.
- Cpk range of 3.2–6.9 far exceed quality requirements.



# FIXTURED F-SERIES NUTRUNNERS

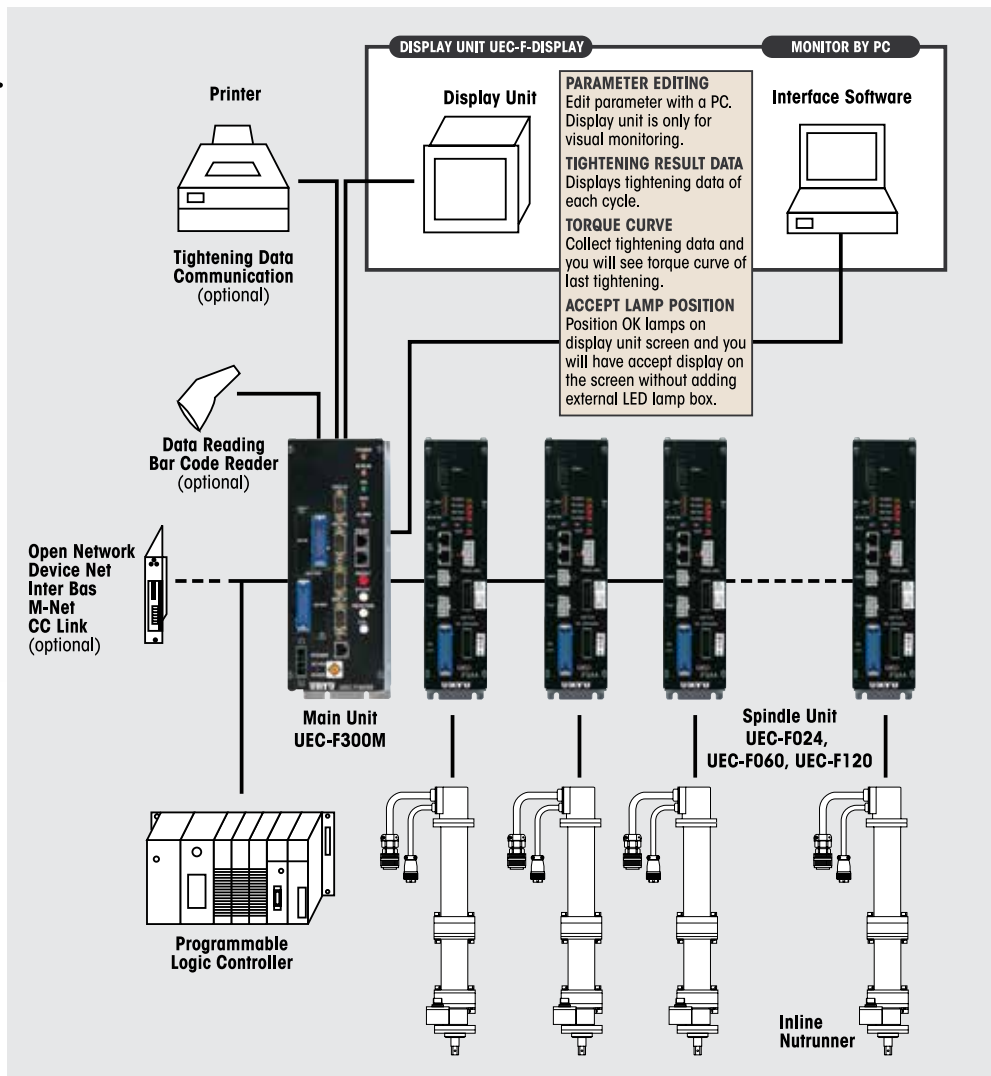
## FEATURES AND BENEFITS



- Reduced Cable Numbers – Integral type tube containing torque sensor cable and resolver cable.
- Enhanced Memory Capacity – Designed with increased memory capacity to get better efficiency of assembly line and tightening data control.
- Open Network Communication – We have prepared all types of communication boards for your various specifications (M-NET, Device net, Inter-bas, CC-link).
- Automatic Setting (Automatic recommended value input) – Advance value preparation per application will help you simplify your parameter setting.
- Space Saving – One piece structure contained spindle controller and driver unit has reduced volume space occupancy by 40% to 60% of ordinary elements.

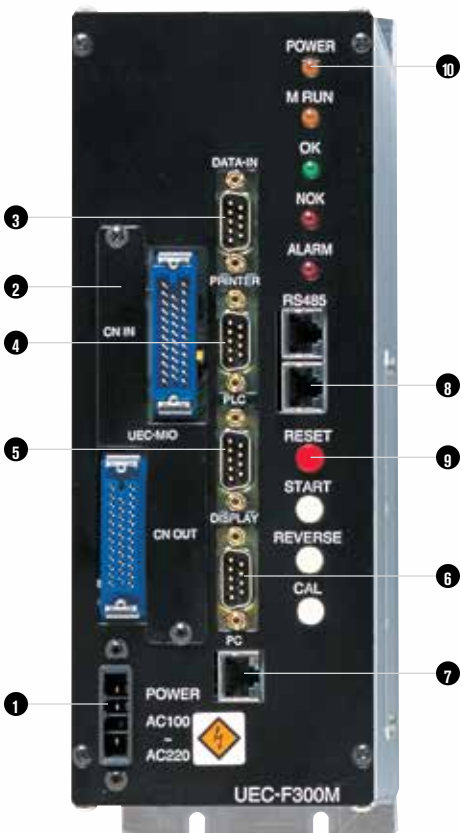
NO. OF SPINDLES	VOLUME & WIDTH BEFORE		VOLUME & WIDTH WITH F-SERIES			
	cm	mm	UEC-F024		UEC-F120	
1-Spindle	16,800	200	6,360	150	8,268	195
2-Spindle	24,360	290	8,904	210	12,084	285
5-Spindle	47,040	560	16,536	390	24,804	585
10-Spindle	84,840	1,010	29,256	690	48,336	1,140

## F-SERIES NETWORK CONNECTIVITY

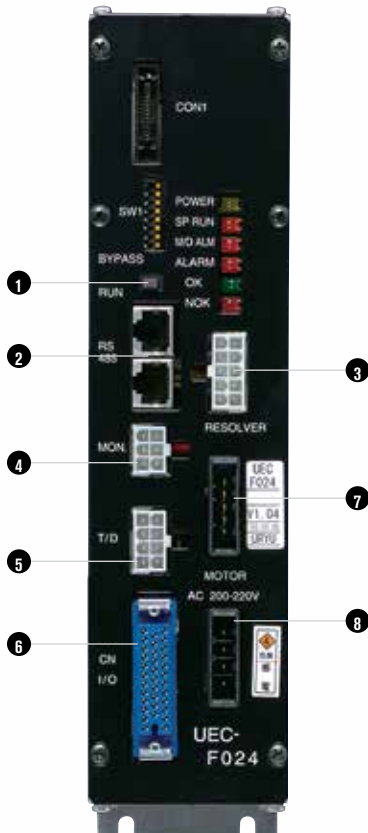


# FIXTURED F-SERIES NUTRUNNERS

Main unit UEC-F300M



Spindle unit UEC-F024



UEC-MKB



- 1 Power Socket**  
AC100~220V single phase
- 2 External Input/Output Connector**  
PLC1: input signal connector for control signal input (fixed allocation)  
PLC2: output signal connector for judgement result and status output (free allocation)
- 3 Serial Port (Data Input Connector)**  
RS232C DATA-IN accepts serial numbers, etc. provided by external equipment such as a barcode reader then outputs tightening data together with serial numbers.
- 4 Serial Port (Data Output Connector)**  
RSC232C PRINTER outputs tightening result data to your printer (free format)
- 5 Serial Port (Data Output Connector)**  
RSC232C PLC outputs tightening result data to PLC (free format)
- 6 Serial Port (Data Output Connector)**  
RS485 outputs tightening result data to an external exclusive display unit
- 7 PC Connector**  
RSC232C for communication with a PC
- 8 Spindle-to-Spindle Communication Connector**  
RS485 for internal spindle unit to spindle unit communications
- 9 Manual Switches**  
RESET, START, REVERSE and CAL
- 10 LED Display**  
POWER, M RUN, ACCEPT, REJECT and ALARM

- 1 Status Change Switch**  
RUN/BYPASS change switch  
RUN: Operation possible status  
BYPASS: Non-operation status
- 2 External Communication Device**  
RS485 connector
- 3 Resolver Connector**  
Tool and resolver connection
- 4 MON Connector (Monitor Output)**  
Analog torque electric pressure and angle pulse output
- 5 T/D Connector**  
Tools torque sensor connection
- 6 I/O Connector**  
External input and output control connection
- 7 MOTOR Connector**  
Connection with tools magnet motor
- 8 AC IN Connector**  
AC200V~220V 3-phase power socket

- 1 Manual Operation Switches**  
START: manual start switch  
REVERSE: Manual reverse switch  
CAL: Manual calibration switch  
RESET: Manual reset switch
- 2 Data Display Operation Switch**  
MODE switch  
SET switch  
DATA UP switch  
DATA DOWN switch

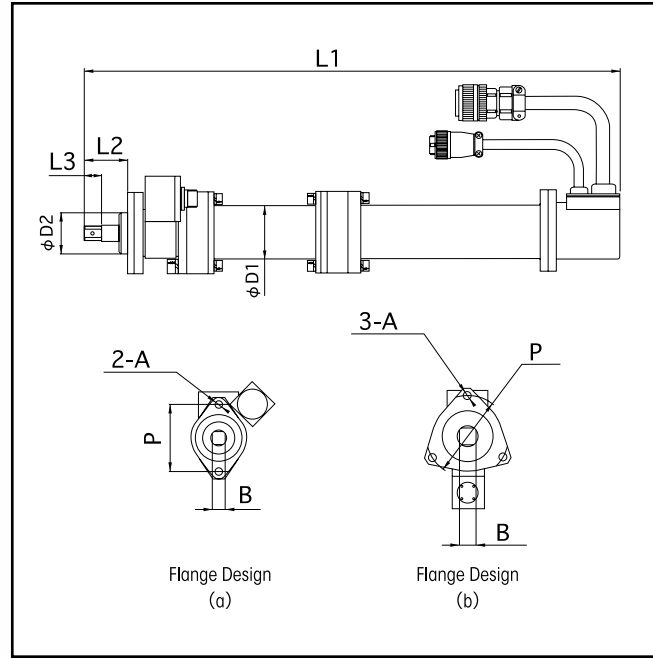
NOTE: Display unit (UEC-MKB) is an option.

**The "F" Series Nutrunner System will satisfy multiple tightening patterns.**

- Torque Tightening
- Spline Press Ft Tightening
- Torque
- Pin Hole Alignment Tightening
- Angle Tightening
- Pre-Load Detection
- Angle
- Idle Operation Check
- Plastic Range Monitor

# FIXTURED F-SERIES NUTRUNNERS

## INLINE NUTRUNNERS



## APPLICATION DATA

TYPE	EXTERNAL DIMENSIONS (mm)								TORQUE SENSOR	MOTOR TYPE	FLANGE DESIGN
	L1	L2	L3	D1	D2	P	A	B			
UNR-F015-45NT	371	41	12	40.5	38	51	M6	9.5	TM-035	F015	(a)
UNR-F015-65NT	371	41	12	40.5	38	51	M6	9.5	TM-035	F015	(a)
UNR-F015-200NT	400	41	12	40.5	38	51	M6	9.5	TM-035	F015	(a)
UNR-F015-280NT	400	41	12	40.5	38	51	M6	9.5	TM-035	F015	(a)
UNR-F015-350NT	400	41	12	40.5	38	51	M6	9.5	TM-035	F015	(a)
UNR-F050-270NT	453.5	41	12	50	38	51	M6	9.5	TM-035	F050	(a)
UNR-F050-630NT	500.5	41	16.5	50	38	62	M8	12.7	TM-085	F050	(a)
UNR-F050-730NT	500.5	41	16.5	50	38	62	M8	12.7	TM-085	F050	(a)
UNR-F050-880NT	512.5	45	20	50	48	62	M8	15.88	TM-150	F050	(a)
UNR-F050-1400NT	512.5	45	20	50	48	62	M8	15.88	TM-150	F050	(a)
UNR-F100-1300NT	519.5	45	20	62	48	62	M8	15.88	TM-150	F100	(a)
UNR-F100-1900NT	515.5	45	20	62	48	76	M8	15.88	TM-250	F100	(b)
UNR-F100-2500NT	515.5	45	20	62	48	76	M8	15.88	TM-250	F100	(b)
UNR-F100-3700NT	589	57	30	62	58	76	M10	19	TM-400	F100	(b)
UNR-F100-5400NT	704.5	80	40	62	70	90	M10	25.4	TM-700	F100	(b)
UNR-F100-7000NT	704.5	80	40	62	70	90	M10	25.4	TM-700	F100	(b)
UNR-F100-10000NT	704.5	80	40	62	70	90	M10	25.4	TM-1000	F100	(b)

## Torque Sensor Specifications

TYPE	CAPACITY (Nm)
TM-035	34.3
TM-085	83.3
TM-150	147
TM-250	245
TM-400	392
TM-700	686
TM-1000	980

Rated Strain	2000X10-6
Output Voltage	1.0mV/V
Non-Linearity	±0.5% R.O.
Influence on Zero Point Due to Temperature	±0.1% R.O./°C
Temperature Rating	-10 ~ +65°C
Input Output Resistance	480Ω
Maximum Input Voltage	16V
Insulation Resistance	Greater than 300MΩ
Overload Capacity	150%

## INLINE MOTOR SPECIFICATIONS

TYPE	TIGHTENING TORQUE (Nm)	FREE SPEED (rpm)	WEIGHT (kg)	SPINDLE UNIT
UNR-F015-45NT	4.5	3,200	2.48	UEC-F024
UNR-F015-65NT	6.5	2,200	2.48	UEC-F024
UNR-F015-200NT	20	730	2.73	UEC-F024
UNR-F015-280NT	28	500	2.73	UEC-F024
UNR-F015-350NT	35	410	2.73	UEC-F024
UNR-F050-270NT	27	1,750	4.86	UEC-F060
UNR-F050-630NT	63	750	5.08	UEC-F060
UNR-F050-730NT	73	650	5.08	UEC-F060

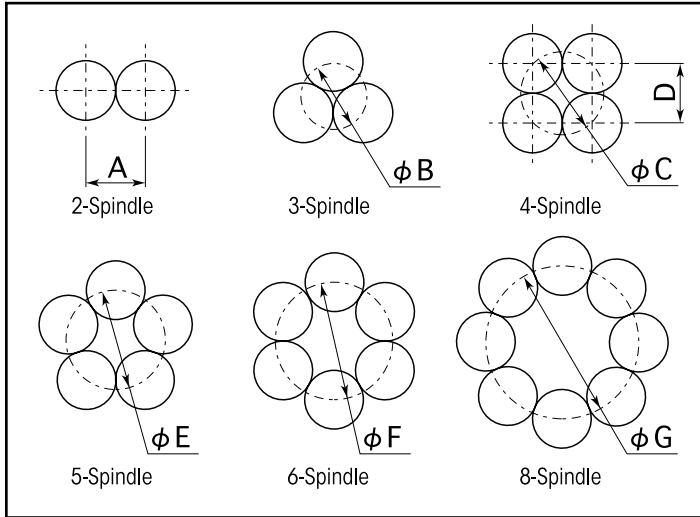
TYPE	TIGHTENING TORQUE (Nm)	FREE SPEED (rpm)	WEIGHT (kg)	SPINDLE UNIT
UNR-F050-880NT	88	540	5.47	UEC-F060
UNR-F050-1400NT	140	340	5.47	UEC-F060
UNR-F100-1300NT	130	730	7.42	UEC-F120
UNR-F100-1900NT	190	500	7.94	UEC-F120
UNR-F100-2500NT	250	370	7.94	UEC-F120
UNR-F100-3700NT	370	260	9.55	UEC-F120
UNR-F100-5400NT	540	175	17.0	UEC-F120



# FIXTURED F-SERIES NUTRUNNERS

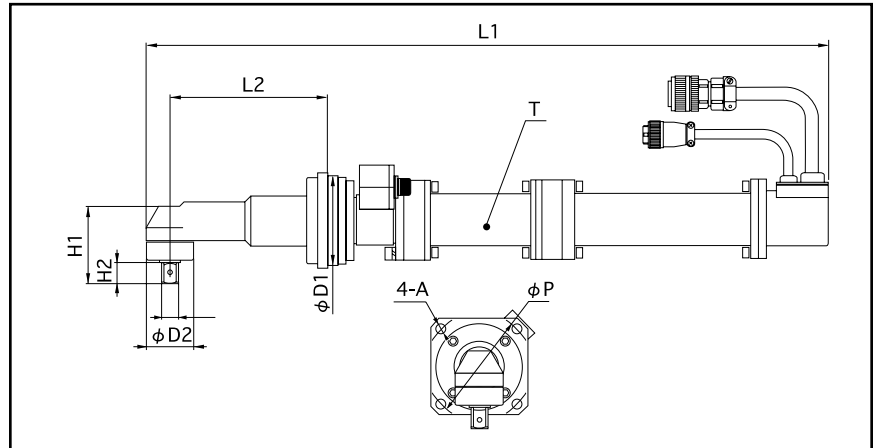
## “F” NUTRUNNER MOTORS’ MINIMUM PITCH CIRCLE

Refer to minimum pitch circles for designing your machine.



TYPE	DIMENSIONS (mm)						
	A	B	C	D	E	F	G
UNR-F015-45NT	43	52	64	46	74	92	122
UNR-F015-65NT	43	52	64	46	74	92	122
UNR-F015-200NT	43	52	64	46	74	92	122
UNR-F015-280NT	43	52	64	46	74	92	122
UNR-F015-350NT	43	52	64	46	74	92	122
UNR-F050-270NT	59	72	90	64	108	122	160
UNR-F050-630NT	59	72	90	64	108	122	160
UNR-F050-730NT	59	72	90	64	108	122	160
UNR-F050-880NT	59	72	90	64	108	122	160
UNR-F050-1400NT	59	72	90	64	108	122	160
UNR-F100-1300NT	66	75	92	65	116	130	170
UNR-F100-1900NT	70	100	110	78	115	132	174
UNR-F100-2500NT	70	100	110	78	115	132	174
UNR-F100-3700NT	76	100	110	78	120	140	184
UNR-F100-5400NT	94	125	143	102	166	188	257
UNR-F100-7000NT	94	125	143	102	166	188	257
UNR-F100-10000NT	94	125	143	102	166	188	257

## RIGHT ANGLE NUTRUNNERS



TYPE	EXTERNAL DIMENSIONS (mm)										STRAIGHT MOTORS		
	L1	L2	H1	H2	D1	D2	P	A	B	TYPE	SENSOR	MOTOR	
UNR-F015-25NTC	507	120	49	10.6	70	28	85	M6	9.5	UNR-F015-200NT	TM-035	F015	
UNR-F015-55NTC	521	130	58	18	70	36	85	M6	12.7	UNR-F015-350NT	TM-035	F015	
UNR-F050-95NTC	643	150	73.5	20	85	45	102	M6	15.88	UNR-F050-630NT	TM-085	F050	
UNR-F050-130NTC	649	150	73.5	20	85	45	102	M6	15.88	UNR-F050-880NT	TM-150	F050	
UNR-F100-200NTC	681.5	170	85.5	20	85	56	102	M6	15.88	UNR-F100-1300NT	TM-150	F100	
UNR-F100-250NTC	677.5	170	85.5	20	100	56	120	M8	15.88	UNR-F100-1900NT	TTM-150	F100	
UNR-F100-380NTC	716.5	200	109.5	25	110	74	134	M10	19	UNR-F100-2500NT	TM-250	F100	
UNR-F100-550NTC	784	200	114.5	29	110	74	134	M10	25.4	UNR-F100-3700NT	TM-400	F100	

## RIGHT ANGLE MOTOR SPECIFICATIONS

TYPE	TIGHTENING TORQUE (Nm)	FREE SPEED (rpm)	WEIGHT (kg)	SPINDLE UNIT
UNR-F015-25NTC	25	460	4.18	UEC-F024
UNR-F015-55NTC	55	260	4.37	UEC-F024
UNR-F050-95NTC	95	480	8.08	UEC-F060
UNR-F050-130NTC	130	340	8.3	UEC-F060

TYPE	TIGHTENING TORQUE (Nm)	FREE SPEED (rpm)	WEIGHT (kg)	SPINDLE UNIT
UNR-F100-200NTC	200	460	11.92	UEC-F120
UNR-F100-250NTC	250	340	12.3	UEC-F120
UNR-F100-380NTC	380	235	15.92	UEC-F120
UNR-F100-550NTC	550	165	17.43	UEC-F120

# UEC-4800 CONTROLLER

## FULL-FEATURED, STATE-OF-THE-ART CONTROL FOR PULSE AND CONTINUOUS DRIVE TOOLS

### FEATURES AND BENEFITS: UEC-4800

- Programmable from front panel or PC – no separate Teachpad module or cable required.
- 12,000 data point memory.
- On-screen statistical readout.
- Eight parameter sets available.
- Increased programmable I/O options.
- Built-in Ethernet connectivity.
- PC Windows based software included.
- For use with pneumatic or electric transducerized tools.
- Compatible with: UL-MC Pneumatic, UEP-MC Electric UOW Nutrunner Series, and UAN Angle Series.



UEC-4800



UEC-4800TP Controller with Touch-Screen option.



UEC-4800 Controller with network connectivity

### FEATURES AND BENEFITS: UEC-4800TP

- Provides all features of the UEC-4800.
- Enhanced user interface via Touch-Screen programming and information access.

Model	24V I/O	Uryu Data, Barcode & Printer	Ethernet Data only	Light Tower & Bypass Switch Capable	Ethernet Protocols	Serial Protocols or Barcode	DeviceNET	PROFIBUS	Touch Panel Display	Angle Monitoring
UEC-4800	X	X								
UEC-4800TP	X	X							X	
UEC-4800TPA	X	X							X	X
UEC-4800-R	X		X							
UEC-4800-EX	X				X	X				
UEC-4800-EXL	X			X	X	X				
UEC-4800-ED	X				X		X			
UEC-4800-EDL	X			X	X		X			
UEC-4800-EP	X				X			X		
UEC-4800-EPL	X			X	X			X		
UEC-4800TP-R	X		X						X	
UEC-4800TP-EX	X				X	X			X	
UEC-4800TP-EXL	X			X	X	X			X	
UEC-4800TP-ED	X				X		X		X	
UEC-4800TP-EDL	X			X	X		X		X	
UEC-4800TP-EP	X				X			X	X	
UEC-4800TP-EPL	X			X	X			X	X	
UEC-4800TPA-R	X		X						X	X
UEC-4800TPA-EX	X				X	X			X	X
UEC-4800TPA-EXL	X			X	X	X			X	X
UEC-4800TPA-ED	X				X		X		X	X
UEC-4800TPA-EDL	X			X	X		X		X	X
UEC-4800TPA-EP	X				X			X	X	X
UEC-4800TPA-EPL	X			X	X			X	X	X

# UEC-4800 CONTROLLER ACCESSORIES

## UEC-4800 CONTROLLER BRACKETS

- Provides a stable platform for the UEC 4800 Controller.
- Flexible Mounting Configurations for ease of access / operator viewing.
- Optional Accessory Bracket enables neat packaging of light tower and accessories with Controller.
- Durable, Powder Coat finish.

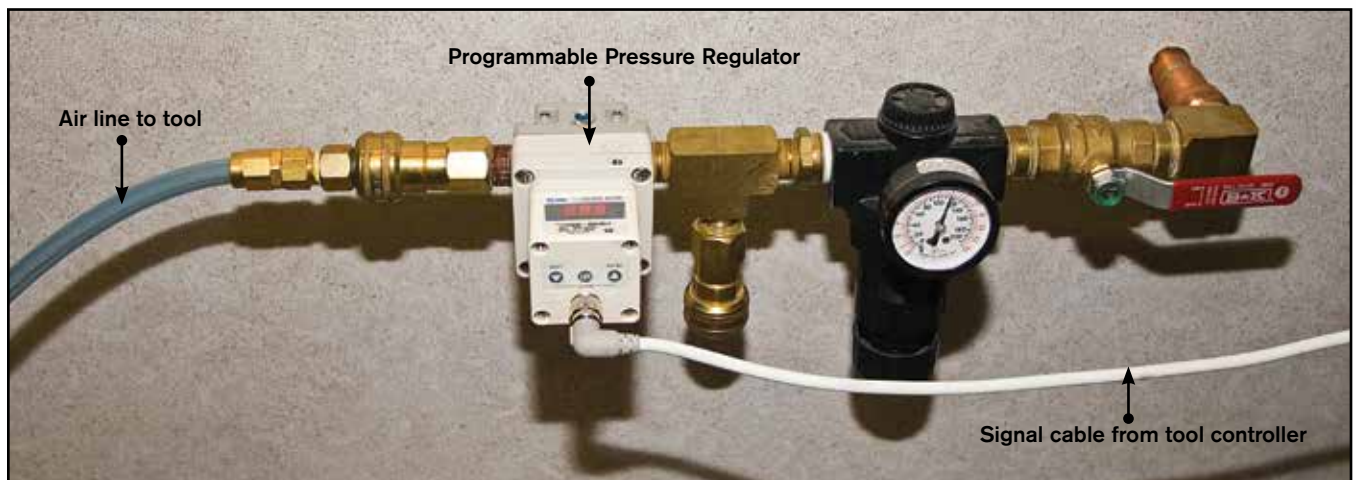
UEC-4800TRAY Complete Assembly for Standard Controllers and Light Towers/Accessories

MODEL	DESCRIPTION
24582	Advanced Communication Enabled Controller Hold Down Bracket
24588	Controller Tray Mount
24587	Wall Mount
24583	Standard Controller Hold Down Bracket
24586	Light Tower/Accessory Bracket



## PROGRAMMABLE PNEUMATIC REGULATOR

- Provides enhanced control for pneumatic assembly tools.
- Enables downshifts with controlled air tools.
- Automatically changes air pressure when programmed Start Torque (threshold) value is reached.
- Can be programmed to switch from high pressure to lower pressure or from low pressure to higher pressure.
- Excellent for use on extremely hard or extremely soft joints.
- Can be programmed to fully disable the tool via PLC input.
- Can be linked to other devices such as a 4-position socket tray.



# OMEGA SERIES

## OMEGA UL-MC SERIES

**FAST, ACCURATE, PNEUMATIC ASSEMBLY WITH SUPERIOR ERGONOMICS  
FEATURES AND BENEFITS**

- Pulse tool ergonomics with controlled tool advantages.
- 20% increase in power-to-weight ratios due to external solenoid valve.
- Magnetostrictive transducer provides high durability with low size and weight.
- All models work with any UEC Series controller.
- Virtually no torque reaction offers one handed operation, leading to significant productivity advantages.



**UL-70MC**

MODEL #	TORQUE RANGE		FREE SPEED RPM	LENGTH		WEIGHT		CENTER TO OUTSIDE		DRIVE SIZE DB(A)	AIR USAGE CFM
	NM	FT-LB		MM	IN	LB	KG	IN	MM		
UL-40MC	6.8 - 12	5.0 - 8.8	5,450	6.7	17.0	2.4	1.1	1.0	26	3/8	7.0
UL-40DMC	6.8 - 12	5.0 - 8.8	5,450	6.7	17.0	2.4	1.1	1.0	26	1/4	7.0
UL-50MC	16.6 - 29	12.2 - 21.4	6,700	6.9	17.5	2.4	1.1	1.0	26	3/8	8.8
UL-60MC	25.1 - 44	18.5 - 32.5	6,600	6.9	17.5	2.5	1.1	1.0	26	3/8	14.0
UL-70MC	28.5 - 50	21 - 37	5,700	7.4	18.7	2.7	1.2	1.0	26	3/8	15.8
UL-90MC	45.7 - 80	33.8 - 59.2	5,500	7.9	20.3	3.7	1.7	1.1	28	1/2	20.3
UL-100MC	51.4 - 90	38 - 66.6	5,200	8.5	21.5	4.5	2.0	1.2	30	1/2	19.3
UL-130MC	74.2 - 130	54.9 - 96.2	4,500	9.2	23.3	6.2	2.8	1.4	36	1/2	25.6

RECOMMENDED AIR PRESSURE: 85 PSI

## OMEGA UEP-MC SERIES

**FEATURES AND BENEFITS**

- Operates on standard 110V or 220V power.
- Extremely durable, brushless motor.
- Programmable tool RPM for increased accuracy and adjustability to joint conditions.
- Two stage trigger for separate, slower RPM for soft start applications.
- Quiet operation.
- I/O capability for programmable line control.
- Pulse tool advantages on applications that require controlled electric tools.



**UEP-60MC**

MODEL	TYPE	TORQUE RANGE		FREE SPEED RPM	WEIGHT LB	LENGTH IN	DRIVE IN	SOUND LEVEL DB(A)	REQUIRED DRIVER BOX
		NM	FT-LB						
UEP-50MC(-STDA)*	TRANSDUCERIZED	5 - 10	4 - 7	2000	4.0	7.9	3/8 SQ. DR.	70	UEPD-51A-UL
UEP-50DMC(-STDA)*	TRANSDUCERIZED	5 - 10	4 - 7	2000	4.0	7.9	1/4 HEX	70	UEPD-51A-UL
UEP-60MC(-STDA)*	TRANSDUCERIZED	10 - 25	8 - 18	2000	4.7	8.7	3/8 SQ. DR.	70	UEPD-61A-UL
UEP-60DMC(-STDA)*	TRANSDUCERIZED	10 - 25	8 - 18	2000	4.7	8.7	1/4 HEX	70	UEPD-61A-UL
UEP-70MC(-STDA)*	TRANSDUCERIZED	25 - 40	18 - 30	2000	5.2	8.4	3/8 SQ. DR.	72	UEPD-71A-UL
UEP-80MC(-STDA)*	TRANSDUCERIZED	30 - 60	22 - 44	2000	6.6	8.4	1/2 SQ. DR.	75	UEPD-71A-UL
UEP-100MC(-STDA)*	TRANSDUCERIZED	60 - 120	44 - 88	2000	9.2	9.9	1/2 SQ. DR.	75	UEPD-101A-UL

# ACRA-PULSE® MC SERIES

## ACRA-PULSE® MC SERIES



UXR-1820MC

MODEL	TORQUE RANGE		FREE SPEED RPM	LENGTH		WEIGHT		DRIVE IN	NOISE LEVEL DB(A)	AIR USAGE CFM
	NM	FT-LB		MM	IN	LB	KG			
ALPHA-50DMC*	6 - 15	4.5 - 11	5,700	193	7.6	2.9	1.3	1/4 HEX	82	7.1
ALPHA-50MC*	6 - 15	4.5 - 11	5,700	193	7.6	2.9	1.3	3/8	82	7.1
ALPHA-60DMC	9 - 20	7 - 14	7,000	205	8.1	3.1	1.4	1/4 HEX	82	8.8
ALPHA-60MC	9 - 20	7 - 14	7,000	205	8.1	3.1	1.4	3/8	82	8.8
ALPHA-60SDMC	10 - 17	7 - 12	5,500	280	11.0	2.8	1.2	1/4 HEX	82	8.8
ALPHA-60SMC*	10 - 17	7 - 12	5,500	280	11.0	2.8	1.2	3/8	82	8.8
ALPHA-70MC	12.5 - 30	9 - 22	7,000	205	8.1	3.1	1.4	3/8	82	12.3
ALPHA-80MC	16 - 40	12 - 29	7,000	221	8.7	3.3	1.5	3/8	82	15.8
ALPHA-90MC	20 - 47	14 - 34	6,500	221	8.7	3.3	1.5	3/8	82	15.8
ALPHA-101MC	34 - 70	25 - 51	6,200	233	9.2	4.6	2.1	1/2	82	17.6
ALPHA-110MC	45 - 100	33 - 72	5,000	249	9.8	5.5	2.5	1/2	82	22.9
ALPHA-130MC	80 - 150	59 - 110	3,400	266	10.5	7.7	3.5	1/2	82	22.9
ALPHA-140MC	140 - 220	103 - 162	3,500	295	11.6	10.2	4.6	3/4	82	28.3
UXR-1820MC	140 - 250	103 - 184	4,600	322	12.3	12.3	5.5	3/4	84	24.7
UXR-2000MC	200 - 400	148 - 295	4,800	355	14.0	17.6	8.0	3/4	84	33.6
UXR-2400SMC	300 - 600	221 - 443	3,300	416	16.4	27.6	12.5	1	85	35.3

Air Hose Size: 3/8" I.D.  
1/2" I.D. FOR UXR-1820MC/2000MC/2400SMC  
\* External Solenoid Valve (909-749-0) Required

Air Inlet: N.P.T. 1/4"  
N.P.T. 3/8" FOR UXR-1820MC; N.P.T. 1/2" FOR UXR-2400SMC

RECOMMENDED AIR PRESSURE: 85 PSI



UX-80EC

## ACRA-PULSE® EC SERIES

RECOMMENDED AIR PRESSURE: 85 PSI

MODEL	TORQUE RANGE		FREE SPEED RPM	LENGTH		WEIGHT		CENTER TO OUTSIDE		DRIVE IN	NOISE LEVEL DB(A)	AIR USAGE CFM
	NM	FT-LB		MM	IN	LB	KG	MM	IN			
U-50EC	4 - 10	3 - 7	2,100	195	7.7	3.3	1.5	21	0.8	3/8	78	10.2
U-50DEC	4 - 10	3 - 7	2,100	201	7.9	3.3	1.5	21	0.8	1/4 HEX	78	10.2
U-50SDEC*	4 - 10	3 - 7	2,100	280	11.5	3.4	1.6	21	0.8	1/4 HEX	72	7.7
U-50SEC*	4 - 10	3 - 7	2,100	280	11.2	3.4	1.6	21	0.8	3/8	72	7.7
U-60EC	15 - 30	11 - 22	1,900	193	7.6	3.5	1.6	27	1.1	3/8	78	14.1
U-60DEC	15 - 30	11 - 22	1,900	305	12.0	4.4	2.0	27	1.1	1/4 HEX	75	12.3
U-60SEC*	15 - 25	11 - 18	1,900	305	12.0	4.4	2.0	27	1.1	3/8	82	14.1
UX-80EC	25 - 45	18 - 33	1,900	197	7.8	4.0	1.8	30	1.2	3/8	80	17.7
U-100EC	50 - 80	36 - 59	1,700	233	8.2	6.2	2.8	33	1.3	1/2	80	24.7
UX-120EC**	65 - 120	47 - 88	900	253	10.0	8.6	3.9	36	1.4	1/2	77	28.2
UX-130EC	90 - 170	65 - 123	1,250	273	10.8	10.4	4.7	40	0.6	1/2	79	35.0

Air Hose Size: 3/8" I.D.  
\*\* Recommended air pressure for UX-120EC: 50 - 57 psi  
\* External Solenoid Valve (909-749-0) required

Air Inlet: N.P.T. 1/4"

NOTE: Torque ranges reflect residual B joint torque values

# TORQUE MEASUREMENT: OVERVIEW

**TORQUE MEASUREMENT AND THE VERIFICATION OF TORQUE TOOLS AND APPLIED TORQUE ARE AN INTEGRAL PART OF TODAY'S THREADED ASSEMBLY PROCESS.** The method used to measure torque can affect the judgments made regarding tool performance, assembly processes and overall product quality.

## DYNAMIC TORQUE

The torque produced during the actual tightening process, normally measured using rotary transducers and a torque analyzer. **Advantages:**

- Reduces operator influence.
- Measures applied torque.
- Can also include angle of rotation as error proofing parameter.

## RESIDUAL TORQUE

The torque measured by producing an incremental amount of movement of the fastener after the actual tightening process, normally measured using a dial or digital torque wrench. **Advantages:**

- Easy access to fastener.
- Error proofing.
- Can detect missed fasteners or joints with significant relaxation.

### HARD JOINT

Less than 30° degrees of rotation

AUDIT METHOD

OR

Dynamic Torque: 15 Nm	Residual Torque: 18 Nm
-----------------------	------------------------

Values as examples only

A hard joint, one requiring a low degree of rotation during tightening, will normally show very little relaxation after tightening. Due to the high amount of remaining clamp load and friction within the joint members, additional movement of the fastener requires additional torque energy to be applied. Therefore, Residual Torque values will be higher than Dynamic Torque values.

### SOFT JOINT

720° degrees or more of rotation

AUDIT METHOD

OR

Dynamic Torque: 15 Nm	Residual Torque: 12 Nm
-----------------------	------------------------

Values as examples only

A soft joint, one requiring a high degree of rotation during tightening, will normally show significant amounts of relaxation after tightening. Relaxation leads to a loss of clamp load and friction within the joint members. Due to this relaxation, additional movement of the fastener requires relatively small amounts of additional torque energy and Residual Torque values will be lower than Dynamic Torque values.

# TORQUE MEASUREMENT: OVERVIEW

## CHECKING TORQUE MEASUREMENT BEFORE, DURING, AND AFTER ASSEMBLY ENSURES QUALITY

**MANUFACTURING.** Proper torque measurement is critical in many assembly operations. AIMCO utilizes years of experience to design a process around your specific auditing requirements. From simple dial wrenches to electronic data collectors and joint analyzers for R&D, AIMCO is with you every step of the way.

### BEFORE ASSEMBLY – TOOL CAPABILITY

#### *Is the tool working correctly?*

Testing and verifying tools under controlled conditions. Identify the accuracy & repeatability of the tool before using it in production.

#### **Equipment used:**

- Desktop testers with internal transducers.
- Auditor™ analyzers with either stationary or rotary transducers.
- UFT hydraulic joint simulators and rotary transducers.

### PRODUCTS TO USE...



### DURING ASSEMBLY – PROCESS CAPABILITY

#### *How does the tool work with the product being assembled?*

Testing the tools during the actual process helps ensure that the process is working correctly. This is where variables in the parts and influences from the operator can be accounted for.

#### **Equipment used:**

- Torque Data Collectors/Analyzers
- Auditor™ Rotary Transducers



### AFTER ASSEMBLY – PRODUCT CAPABILITY

#### *Does the finished product meet the user's expectations?*

Checking the product after assembly is the final opportunity to check the product prior to user delivery. This is the way to verify that product quality is satisfactory.

#### **Equipment used:**

- Click/Dial wrenches
- Electronic wrenches with Auditor™ analyzers.
- Rotary transducers and Auditor™ analyzers with hand driver to move fastener.



# TORQUE MEASUREMENT: OVERVIEW

## MEASURING QUALITY – PROCESS CAPABILITY

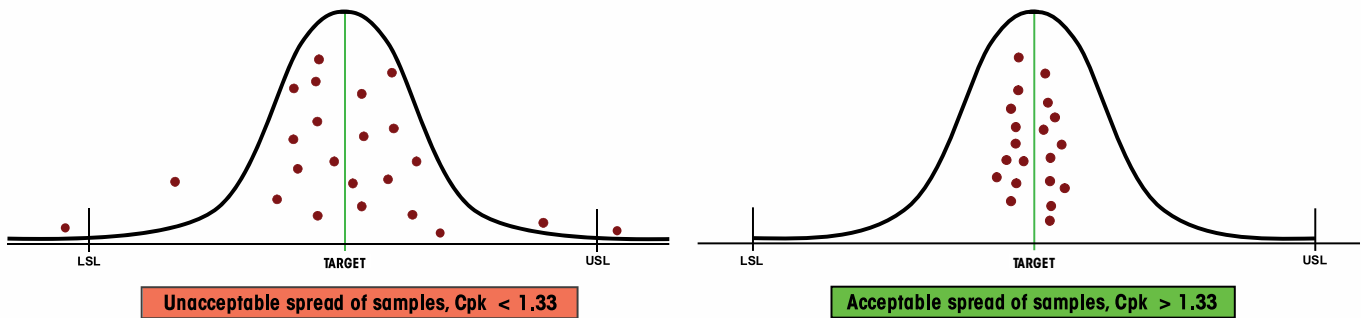
### STATISTICAL ANALYSIS IS AN IMPORTANT STEP IN ANY QUALITY CONTROL PROCESS.

One of the most widely accepted statistical indicators of process quality, and therefore product quality, is Cpk, or the process capability for a centered process. This value indicates how capable a process is and whether the results of that process are properly centered near a specific target. A capable process is one that approaches, as a limit, 100% conformance to specifications.

Cpk is a statistical value that indicates how tightly grouped a series of samples is around the target value. Cpk is a function of the Upper Specification Limit (USL), the Lower Specification Limit (LSL), the mean of the samples and the standard deviation ( $\sigma$ ) of the samples.

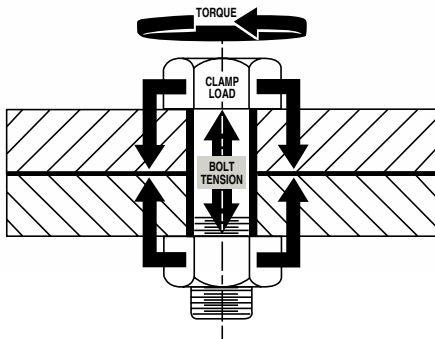
$$Cpk = \text{either } \frac{(USL - \text{Mean})}{(3 \times \sigma)} \text{ or } \frac{(\text{Mean} - LSL)}{(3 \times \sigma)}, \text{ whichever is smaller.}$$

**An acceptable, or capable, process will normally have a Cpk value of at least 1.33.**



## MEASURING QUALITY – CLAMP LOAD

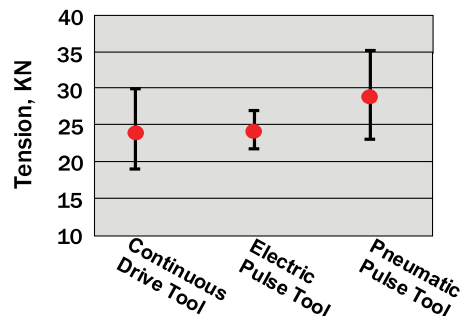
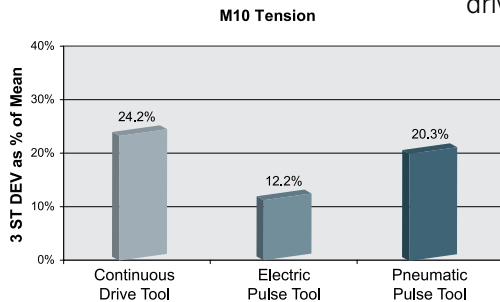
### THE PURPOSE OF THREADED FASTENING IS TO PRODUCE THE CORRECT AMOUNT OF CLAMP LOAD WITHIN THE JOINT.



Due to the cost and difficulty of measuring clamp load during the actual assembly process, torque is used as the control parameter during tightening.

Many manufacturers use torque values as the primary indicator of threaded assembly quality. However, achieving repeatable clamp load is a better indicator of joint quality.

Studies have shown that discontinuous drive tools can produce equal or better clamp load results when compared to continuous drive tools.





# AUDITOR™ TORQUE CUBE™



ATC-10  
ATC-25  
ATC-100  
ATC-250  
ATC-500



ATC-750F



## AUDITOR™ TORQUE CUBE™

The Auditor Torque Cube (ATC) is a compact, versatile desktop tester and provides a multitude of capabilities. The ATC is designed to test hand or power tools with the following:

- Peak, first peak and track modes.
- Multiple engineering units.
- Manual & auto clear function.
- Multiple frequency response settings.
- Bi-directional use & accuracy.
- Accuracy is better than 1% of indicated reading top 90% of range.
- Serial data output.
- Memory 999 data samples.
- Battery and/or mains powered.

Because precision and quality are important, our testers can be depended on to calibrate and certify your torque tools. Whether you are assembling large complicated systems or small precise time pieces, AIMCO provides the best system for your application. Our instruments have been judged "best in class" by independent National Standards laboratories. The Auditor Torque Cube is rugged enough to test and verify tools at "point of use" while still being accurate enough to calibrate hand and power tools in the calibration laboratory.

Each tester is shipped with a mains/battery charger power cord, a joint rundown fixture, a hex to allen drive bit and a bolting template. The ATC can be positioned vertically or horizontally for the ergonomic testing of inline or pistol grip tools.

MODEL	MAX TORQUE		WEIGHT		W X H X D		SQUARE DRIVE in
	Nm	in-lb	kg	lb	mm	in	
ATC-10	1.13	10	1.13	2.5	79x95x83	3.13x3.75x3.25	1/4
ATC-25	2.8	25	1.13	2.5	79x95x83	3.13x3.75x3.25	1/4
ATC-100	11.3	100	1.13	2.5	79x95x83	3.13x3.75x3.25	1/4
ATC-250	28.25	250	1.13	2.5	79x95x83	3.13x3.75x3.25	3/8
ATC-500	56.5	500	1.13	2.5	79x95x83	3.13x3.75x3.25	3/8
ATC-250F	339	250 ft-lb	2.25	5	79x95x83	3.13x3.75x3.25	1/2
ATC-750F	1017	750 ft-lb	2.25	5	79x95x83	3.13x3.75x3.25	3/4

# AUDITOR™ DESKTOP TESTERS



AUET



AUET/MTM



AUET/MTM-DC

## AUDITOR™ UNIVERSAL ELECTRONIC TESTERS

The Auditor Universal Electronic Testers (AUET) have a broad range of features to accommodate most requirements. These instruments are designed to be bench top mounted and are available in several configurations and various single or multiple torque ranges. They are also available with file capability, (DC) models. The DC models require PC software Auditor Tool Manager (ATM).

supplied with an external transducer port and selector switch for connecting additional transducers.

These AUET instruments utilize the same transducers that are featured in the ATC instruments, providing the same high quality in accuracy and durability. Auditor testers use a common interface making it extremely user friendly.

Instruments up to 1000 in-lb are supplied with rundown adapters/joint kits. Rundown kits for larger instruments can be ordered separately. AUET/MTM units are



### SINGLE TRANSDUCER MODELS

MODEL**	RECOMMENDED TORQUE RANGE			
AUET-0100(-DC)	10 - 100	in-oz	0.7 - 7.2	kgf-cm
AUET-10(-DC)	1 - 10	in-lb	1.1 - 11.5	kgf-cm
AUET-50(-DC)	5 - 50	in-lb	0.5 - 5.6	Nm
AUET-100(-DC)	10 - 100	in-lb	1.1 - 11.3	Nm
AUET-250(-DC)	25 - 250	in-lb	2.8 - 28.3	Nm
AUET-1000(-DC)	100 - 1000	in-lb	11.3 - 113	Nm
AUET-1200(-DC)	120 - 1200	in-lb	13.6 - 135.6	Nm

### DUAL TRANSDUCER MODELS

MODEL**	RECOMMENDED TORQUE RANGE			
	Transducer 1	Transducer 2	Transducer 1	Transducer 2
AUET/MTM-10-100(-DC)	1.0 - 10 in-lb	10 - 100 in-lb	0.11 - 1.12 Nm	1.3 - 11.3 Nm
AUET/MTM-50-250(-DC)	5.0 - 50 in-lb	25 - 250 in-lb	0.56 - 5.65 Nm	2.8 - 28.3 Nm
AUET/MTM-50-500(-DC)	5.0 - 50 in-lb	50 - 500 in-lb	0.56 - 5.65 Nm	5.65 - 56.49 Nm
AUET/MTM-100-500(-DC)	10 - 100 in-lb	50 - 500 in-lb	1.13 - 11.3 Nm	5.65 - 56.49 Nm
AUET/MTM-100-1000(-DC)	10 - 100 in-lb	100 - 1000 in-lb	1.13 - 11.3 Nm	11.3 - 113 Nm

\*Custom sizes are also available, please inquire.

\*\*Add "-DC" to part numbers for data collecting models.

**Data collecting models allow multiple files/tools/applications to be associated with torque data. Requires Tool Manager software.**

# AUDITOR™ TORQUE DATA ANALYZERS



ATDA-DC

## AUDITOR™ TORQUE DATA ANALYZERS

Our torque tester is the Auditor Torque Data Analyzer (ATDA) DC designed to be portable or conveniently placed on a bench. Depending on requirements, the tester can be connected to various transducers. In addition, it can be connected to transducerized wrenches, rotary or stationary transducers. The user interface is common between the ATC (Cube), AUET, AUET-DC, AUET/MTM, AUET/MTM-DC, ATDA and ATDA-DC. All of these instruments have very similar menus, additionally, all data collector testers utilize Auditor Tool Manager for tool testing and test data management.

The Auditor Torque Data Analyzer is available in three configurations:

- ATDA: A simple torque analyzer with sequential memory, 999 data samples, engineering limits, limited statistical processing average, range, Cp and CpK with serial output.
- ATDA-S: A simple torque analyzer with sequential memory and data streaming capability for creating rundown graphics in Excel or Word.
- ATDA-DC: Contains all of the features of the ATDA and has additional file capability. Is able to associate data with file names and manage data collection using a computer and the Auditor Tool Manager software.

This is a great “starter” tool management system, providing testing, archiving and analysis of tools at single or multiple torque targets. The tool and torque data is stored in a SQL database and can be exported to Excel or any .csv spreadsheet application.



MODEL	DESCRIPTION
ATDA	Auditor Torque Data Analyzer
ATDA-DC	Auditor Torque Data Collector
ATDA-S	Auditor Torque Data Streaming Unit

# AUDITOR™ TORQUE DATA ANALYZERS



ATDA-8000

ATDA-8000-10

## TOUCH SCREEN AUDITOR™ TORQUE DATA ANALYZERS

Auditor offers the ATDA-8000 and the ATDA-8000-10. The ATDA-8000 is a touch screen instrument with a high resolution display and user interface that facilitates “point of use” tool validation. The user interface is intuitive and the display provides clear easy to read data. Features and parameter settings are password protected to ensure parameters cannot be inadvertently changed. After initial setup the instrument provides semi-automatic tool validation and judgment.

The ATDA-8000 is a single channel instrument – the ATDA-8000-10 is a larger instrument that includes a multiplexor for connection to multiple transducers allowing a wide range of tools to be tested with one instrument. Both systems work with AIMCO’s line of digital transducers.



MODEL	DESCRIPTION
ATDA-8000	Auditor Torque Analyzer Single channel touch screen point of use validation system
ATDA-8000-10	Auditor Torque Analyzer Multiple transducer touch screen point of use validation system

# AUDITOR™ TRANSDUCERS



Stationary Transducers with joint rundown fixtures and where applicable bench stands.

## AUDITOR™ TRANSDUCERS – Stationary, Rotatables, Rotary, Wrenches “Transducers on a Stick” Analog and Digital transducer models available

AIMCO offers multiple styles of transducers with various configurations depending on application requirements. We offer IS (industry standard transducers 2mv/v), Intelligent transducers for Crane instruments (UTA), Intelligent IS transducers for Auditor instruments (these work as intelligent when connected to our instruments but as IS when connected to other manufacturer’s instruments – no need for multiple sets of transducers due to multiple analyzers. AIMCO also offers digital

torque transducers and a new concept in dynamic torque testing – wireless rotatable torque transducers. This list is a partial list of what we have available.

\*Please refer to the Stationary Transducer in the Appendix A for required ordering options.

Please contact our Customer Service Associates for additional information, 1-800-852-1368.

STATIONARY TRANSDUCER	MAX TORQUE		WEIGHT		W X H X D		SQUARE DRIVE
	Nm	in-lb/ft-lb	kg	lb	mm	in	in
AISI-200025	2.8	25	1.13	2.5	79x95x83	3.13x3.75x3.25	1/4
AISI-200100	11.3	100	1.13	2.5	79x95x83	3.13x3.75x3.25	1/4
AISI-200500	56.5	500	1.13	2.5	79x95x83	3.13x3.75x3.25	3/8
AISF-200100	135.6	1200/100	2.25	5	100x65	4x3	1/2
AISF-200250	339	3000/250	2.25	5	100x65	4x3	1/2
AISF-201000	1350	12,000/1000	2.8	6	100x65	4x3	1

DRIVE SIZE - IN	MAX TORQUE		STATIONARY – SMART	STATIONARY – IS
1/4	5.6 Nm	50 in-lb	ASTU-25D-6	
1/4	11 Nm	100 in-lb	ASTU-25D-11	ASTIS-25D-11
1/4	28 Nm	250 in-lb	ASTU-25D-28	ASTIS-25D-28
3/8	67 Nm	50 ft-lb	ASTU-38D-67	
3/8	135 Nm	100 ft-lb	ASTU-38D-135	ASTIS-38D-135
1/2	270 Nm	200 ft-lb	ASTU-50D-270	ASTIS-50D-270
3/4	540 Nm	400 ft-lb	ASTU-75D-540	
3/4	1017 Nm	750 ft-lb	ASTU-75D-1000	ASTIS-75D-1000
1	1695 Nm	750 ft-lb	ASTU-100D-1700	ASTIS-100D-1700

# AUDITOR™ TRANSDUCERS



Rotary UTA



Rotary Intellect/IS AIR\*\*



Rotary UTA

Model*	Max Torque		Weight		Size		Square Drive in
	Nm	in-lb/ft-lb	kg	lb	mm	inch	
AIRI-200050	5.65	50	1	2.5	50x75	2x3	1/4
AIRI-200500	56.5	500	1	2.5	50x75	2x3	3/8"
AIRF-200100	135.6	1200/100	1.5	3.3	75x100	3x4	1/2"
AIRF-200500	678	6000/500	2.2	5	75x100	3x4	3/4"
AIRF-201000	1356	12,000/1000	3	6.5	75x100	3x4	1"

\*Insert (1) after the hyphen to indicate torque angle transducers.

\*\*Please refer to the Transducer Configurator in the Appendix A for required ordering options.

DRIVE	MAX TORQUE		ROTARY – SMART	ROTARY – IS	TORQUE ANGLE*	LENGTH (A)	THICKNESS (B)	WIDTH (C)	WEIGHT lb
1/4 Hex	2 Nm	18 in-lb	ARTU-25H-2T	ARTIS-25H-2T	A	4.6	1.1	2.2	1.0
1/4 Hex	5 Nm	44 in-lb	ARTU-25H-5T	ARTIS-25H-5T	A	4.6	1.1	2.2	1.0
1/4 Hex	10 Nm	88 in-lb	ARTU-25H-10T		A	4.6	1.1	2.2	1.0
1/4 Hex	20 Nm	180 in-lb	ARTU-25H-20T	ARTIS-25H-20T	A	4.6	1.1	2.2	1.0
1/4 Sq.	10 Nm	88 in-lb	ARTU-25S-10T	ARTIS-25S-10T	A	2.9	1.1	2.2	1.0
1/4 Sq.	20 Nm	180 in-lb	ARTU-25S-20T		A	2.9	1.1	2.2	1.0
3/8 Sq.	25 Nm	225 in-lb	ARTU-38S-25T		A	3.0	1.1	2.4	1.2
3/8 Sq.	75 Nm	50 ft-lb	ARTU-38S-75T	ARTIS-38S-75T	A	3.0	1.6	2.7	1.2
1/2 Sq.	180 Nm	130 ft-lb	ARTU-50S-180T	ARTIS-50S-180T	A	3.4	1.6	2.7	1.5
3/4 Sq.	250 Nm	180 ft-lb	ARTU-75S-250T		A	4.1	2.0	3.1	2.2
3/4 Sq.	500 Nm	370 ft-lb	ARTU-75S-500T	ARTIS-75S-500T	A	4.1	2.0	3.1	2.2
1 Sq.	750 Nm	550 ft-lb	ARTU-100S-750T		A	4.9	2.4	3.6	4.0
1 Sq.	1400 Nm	1025 ft-lb	ARTU-100S-1400T	ARTIS-100S-1400T	A	4.9	2.4	3.6	4.0

\*Add this suffix to the end of the part number to indicate torque/angle transducers.

## JOINT KITS

DRIVE SIZE - IN	ROTARY KIT PART NUMBER	STATIONARY KIT PART NUMBER
1/4	AJKR-28	AJKS-25D
3/8	AJKR-135	AJKS-38D
1/2	AJKR-271	AJKS-50D
3/4	AJKR-1017	AJKS-75D
1	AJKR-1695	AJKS-100D

# RUNDOWN FIXTURES / WIRELESS TRANSDUCER



HDS Series

## AUDITOR™ RUNDOWN FIXTURES

AIMCO's ARDIA and ARDFA rundown fixtures provide a cost-effective means to test power tools at various joint rates. We provide 3 versions of rundown kits: our standard ARDIA or ARDFA, our wear resistant series (HD) and our encapsulated wear resistant series (HDS). Our HDS Series provides wear resistant properties and a sleeve that contains all components preventing nut, bolt and washers from coming apart.



Rundown fixtures for heavy duty use.

MODEL*	DESCRIPTION	RECOMMENDED TORQUE RANGE		SQUARE DRIVE
		in-lb	Nm	in
ARDIA-10(HD)(HDS)	Rundown Fixture	1.0 - 10	.13 - 1.13	1/4
ARDIA-25(HD)(HDS)	Rundown Fixture	2.5 - 25	.28 - 2.8	1/4
ARDIA-100(HD)(HDS)	Rundown Fixture	10.0 - 100	1.3 - 11.3	1/4
ARDIA-250(HD)(HDS)	Rundown Fixture	25.0 - 250	2.8 - 28.25	3/8
ARDIA-500(HD)(HDS)	Rundown Fixture	50.0 - 500	5.6 - 56.5	3/8

\* Add "HD" to part numbers for wear resistant models. Add "HDS" to part numbers for encapsulated wear resistant models.

MODEL*	DESCRIPTION	RECOMMENDED TORQUE RANGE		SQUARE DRIVE
		ft-lb	Nm	in
ARDFA-100(HD)(HDS)	Rundown Fixture	10 - 100	13.6 - 136	1/2
ARDFA-150(HD)(HDS)	Rundown Fixture	15 - 150	20.4 - 204	1/2
ARDFA-250(HD)(HDS)	Rundown Fixture	25 - 250	34.0 - 340	1/2
ARDFA-600(HD)(HDS)	Rundown Fixture	60 - 600	81.6 - 816	3/4

\* Add "HD" to part numbers for wear resistant models. Add "HDS" to part numbers for encapsulated wear resistant models.



## WIRELESS TRANSDUCER SYSTEM - AUDITOR™ ROTATABLE

AIMCO's NEW transducer system – No cables! No bearings! No slip rings! A durable, accurate and cost effective wireless alternative to conventional rotary transducers.

The Auditor Wireless Transducer System can address up to twelve transducers with one instrument. Eight to twelve hour battery life on full charge.

# AUDITOR™ DIGITAL WRENCH SERIES



ADW-0010K111312222



## DATA COLLECTING MODELS

- Large memory capacity.
- Every torque value has associated trace file.
- “Pick a Point” and “Move On” feature.
- Barcode scanner.
- Alpha Numeric screen for entering text.
- Field replaceable batteries.
- Docking station connection.
- Serial connection.
- Battery charger connection.
- Ergonomic handle.
- Switch between measure and data collection modes at any time.
- Multiple files and route capability.
- Data memory and simple statistics “On Board”.
- Complete statistical analysis, data archiving and exporting in Audit Manager software.
- Five models standard ranges 10 - 500 Nm full scale.
- Torsion transducer – not length dependent.
- Transducer is replaceable.
- 1400 Nm model uses different handle design.

MODEL*	TORQUE RANGE		WEIGHT		OVERALL LENGTH		SO. DRIVE
	Nm	ft-lb	lb	kg	in	mm	in
ADW-0010K	1-10	0.7-7.4	2.2	1	18	457.2	1/4
ADW-0075K	7.5-75	5.5-55	3.1	1.4	23.5	596.9	3/8
ADW-0180K	18-180	13-130	3.6	1.6	30.1	765.2	1/2
ADW-0270K	27-270	20-198	3.6	1.6	30.1	765.2	3/4
ADW-0500K	50-500	37-369	4	1.8	36	914	1
ADW-1400F	140-1400	103-1033	4.8	2.2	60	1524	1

Unit accuracy is  $\pm 1.0\%$  FSD of indicated reading for the top 95% of full scale as indicated above.

Each model includes a case, a battery charger, and a standard square-drive head. Other heads are available at additional cost.

\*Part numbers with K, D or F followed by a 1 designate models with file and route capability. K followed by 2 indicate sequential memory no file capability.

Part numbers with K, D or F followed by a 1,1 indicate file and route with bar code and docking station capability. K, D or F followed by a 1,2 indicate file and route capability with serial port only.

\*\*Please refer to the Wrench Configurator in the Appendix B for required ordering options.



## DOCKING STATION

- Nest for accepting all wrench sizes.
- Charger and serial communication accomplished through docking station.
- Mountable for securing docking station.



# ELECTRONIC TORQUE WRENCHES / ACCESSORIES

## ALLOW PRECISE TIGHTENING AND AUDITING OF YOUR ASSEMBLY APPLICATIONS

### “TRANSDUCERS ON A STICK”

- Non-Length Dependent – Where the operator’s hand is positioned during use has no effect on torque readings.
- Available in Industry Standard (IS) or Intelligent (Intellect) Configurations – Transducer is compatible with a wide variety IS style instruments or Auditor™ Intellect instruments that self recognize the transducer.
- Durable – Steel, Aluminum and Carbon Fiber construction providing optimal strength and weight characteristics. Transducer supplied with overload capacity of 150% of full scale.
- Accurate – Torque readings are accurate to 1% of indicated reading in top 95% of full scale.



MODEL	TORQUE RANGE		SQUARE DRIVE in
	Nm	ft-lb	
ATW-0100F	14-136	10-100	3/8
ATW-0200F	27-272	20-200	1/2
ATW-0500F	68-680	50-500	3/4
ATW-1000F	136-1360	100-1000	1

Unit accuracy is ± 0.5% of indicated reading for the top 90% of full scale as indicated above.  
Required Accessory: ATDBRIS IS cable to connect Auditor™ ATDA instrument.

### TORQUE MEASUREMENT ACCESSORIES



ICBL-USB



ATDBLIS

CABLE PART #	DESCRIPTION OF CABLES
RS232C	Serial communication cable Stereo to 9 socket for Auditor
ICBL-USB	Serial communication cable Stereo to USB for Auditor
ATDBLIS	AUET/MTM, ATDA IS w/angle transducer cable – Micro connector to 10 socket transducer connector *(IS)
ATDBRIS	AUET/MTM, ATDA IS transducer cable – Micro connector to 4 socket transducer connector *(IS)
ICBL-10P	AUET/MTM, ATDA Intellect w/angle transducer cable. Identification chip in cable 10 socket connector
ICBL-4P	AUET/MTM, ATDA Intellect transducer cable. Identification chip in cable 4 socket connector
CBL-5000	Micro connector to Military 5 pin connector
ICBL-5000-O	Odu x Odu connector – Old large diameter connector pre 2009
ICBL-5000-L	Lemo x Lemo connector – Current connector for Intellect transducers
ICBL-5000-LO	Lemo x Odu connector for connecting newer instruments to older Intellect transducers – pre 2009
ICBL-5000-LI	Lemo x Lemo Intellect for IS transducers – cable identifies transducer range to instrument.
ICBL-5000-OI	Odu x Odu Intellect for IS transducer cable identifies transducer range to instrument.
ICBL-5000-LA-10	Lemo x Military w/angle for Intellect transducers.
ICBL-5000-LAI-10	Lemo x Military Intellect w/angle for IS w/angle transducers identifies transducer range to instrument.

# AUDITOR™ PRESET TORQUE WRENCHES

## FEATURES AND BENEFITS

- Easy to use preset wrenches for fastener torque auditing.
- Torque ranges from 5-340 Nm.
- User friendly sleek ergonomic design.
- Tactile feedback on achievement of preset torque.
- Proprietary adjustment tool guards against unauthorized setting changes.
- Wide range of interchangeable heads provide user flexibility and convenience.
- +/- 3% accuracy when used in clockwise or counterclockwise directions.



Preset Wrenches	Description
APTW-25	Auditor Preset Torque Wrench, 5-25Nm, Accepts 12mm Inserts
APTW-50	Auditor Preset Torque Wrench, 10-50Nm, Accepts 12mm Inserts
APTW-100	Auditor Preset Torque Wrench, 20-100Nm, Accepts 12mm Inserts
APTW-150	Auditor Preset Torque Wrench, 30-150Nm, Accepts 12mm Inserts
APTW-200	Auditor Preset Torque Wrench, 40-200Nm, Accepts 14mm Inserts
APTW-340	Auditor Preset Torque Wrench, 60-340Nm, Accepts 14mm Inserts

Ratchet and Square Drive Heads	Description
APTH-12RT25	Auditor Preset Torque Wrench Ratchet Insert, 1/4 SQ DR, 12mm
APTH-12RT38	Auditor Preset Torque Wrench Ratchet Insert, 3/8 SQ DR, 12mm
APTH-12RT50	Auditor Preset Torque Wrench Ratchet Insert, 1/2 SQ DR, 12mm
APTH-14RT50	Auditor Preset Torque Wrench Ratchet Insert, 1/2 SQ DR, 14mm
APTH-14RT34	Auditor Preset Torque Wrench Ratchet Insert, 3/4 SQ DR, 14mm
APTH-12SD25	Auditor Preset Torque Wrench SQ DR Insert, 1/4 SQ DR, 12mm
APTH-12SD38	Auditor Preset Torque Wrench SQ DR Insert, 3/8 SQ DR, 12mm
APTH-12SD50	Auditor Preset Torque Wrench SQ DR Insert, 1/2 SQ DR, 12mm
APTH-14SD50	Auditor Preset Torque Wrench SQ DR Insert, 1/2 SQ DR, 14mm



Open End Heads	Description
APTH-120E7	Auditor Preset Torque Wrench Insert 7mm OE, 12mm
APTH-120E8	Auditor Preset Torque Wrench Insert 8mm OE, 12mm
APTH-120E9	Auditor Preset Torque Wrench Insert 9mm OE, 12mm
APTH-120E10	Auditor Preset Torque Wrench Insert 10mm OE, 12mm
APTH-120E11	Auditor Preset Torque Wrench Insert 11mm OE, 12mm
APTH-120E12	Auditor Preset Torque Wrench Insert 12mm OE, 12mm
APTH-120E13	Auditor Preset Torque Wrench Insert 13mm OE, 12mm
APTH-120E14	Auditor Preset Torque Wrench Insert 14mm OE, 12mm
APTH-120E15	Auditor Preset Torque Wrench Insert 15mm OE, 12mm
APTH-120E16	Auditor Preset Torque Wrench Insert 16mm OE, 12mm
APTH-120E17	Auditor Preset Torque Wrench Insert 17mm OE, 12mm
APTH-120E18	Auditor Preset Torque Wrench Insert 18mm OE, 12mm
APTH-120E19	Auditor Preset Torque Wrench Insert 19mm OE, 12mm
APTH-140E13	Auditor Preset Torque Wrench Insert 13mm OE, 14mm
APTH-140E14	Auditor Preset Torque Wrench Insert 14mm OE, 14mm
APTH-140E15	Auditor Preset Torque Wrench Insert 15mm OE, 14mm
APTH-140E16	Auditor Preset Torque Wrench Insert 16mm OE, 14mm
APTH-140E17	Auditor Preset Torque Wrench Insert 17mm OE, 14mm
APTH-140E18	Auditor Preset Torque Wrench Insert 18mm OE, 14mm
APTH-140E19	Auditor Preset Torque Wrench Insert 19mm OE, 14mm
APTH-140E21	Auditor Preset Torque Wrench Insert 21mm OE, 14mm
APTH-140E22	Auditor Preset Torque Wrench Insert 22mm OE, 14mm
APTH-140E24	Auditor Preset Torque Wrench Insert 24mm OE, 14mm
APTH-140E27	Auditor Preset Torque Wrench Insert 27mm OE, 14mm
APTH-140E30	Auditor Preset Torque Wrench Insert 30mm OE, 14mm
APTH-140E32	Auditor Preset Torque Wrench Insert 32mm OE, 14mm
APTH-140E34	Auditor Preset Torque Wrench Insert 34mm OE, 14mm
APTH-140E36	Auditor Preset Torque Wrench Insert 36mm OE, 14mm
APTH-140E38	Auditor Preset Torque Wrench Insert 38mm OE, 14mm
APTH-140E41	Auditor Preset Torque Wrench Insert 41mm OE, 14mm

# AUDITOR™ HIGH-CAPACITY TEST STANDS



## AHCTS TEST STANDS FOR ROTATING TOOLS

Designed for testing tools with continuous rotating output spindles. The test stand includes a rundown fixture, bushing for side load support, reaction post or reaction paddles, transducer and torque analyzer display.

MODEL	DESCRIPTION
AHCTS-0500	3/4" Square Drive w/rundown fixture
AHCTS-1000	1" Square Drive w/rundown fixture
AHCTS-2500	1.5" Square Drive w/rundown fixture
AHCTS-5000	1.5" Square Drive w/rundown fixture
AHCTS-7500	1.5" Square Drive w/rundown fixture
AHCTS-5025*	1.5" Sq Dr dual station w/rundown fixture and reaction devices

\*This stand has two transducers embedded into the base, one for rotary tools and one for hydraulic tools. It comes with the rundown and reaction fixtures and one display.

\*\*Please refer to the Test Stand Configurator in the Appendix C for required ordering options.

## AHCTS-K STANDS

The AHCTS-K stands are specifically designed for hydraulic wrench testing. Hydraulic wrenches have very low profiles but very high torque output therefore working height must be minimized to prevent side loading which could lead to errors in data or damage to tool or reaction devices.

Either of these stands can be ordered with various options such as extension legs, casters, embedded or attached torque analyzers with various rundown fixtures and reaction devices. Contact an AIMCO Customer Service Associate for additional information, 1-800-852-1368.

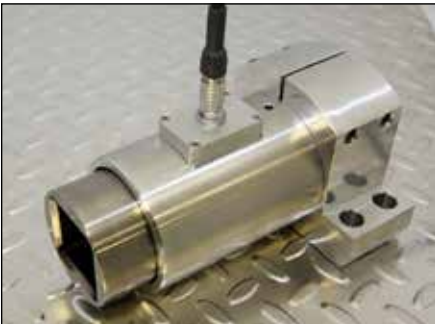
MODEL	DESCRIPTION
AHCTS-0.5K	3/4" Square Drive w/reaction device
AHCTS-001K	1" Square Drive w/reaction device
AHCTS-2.5K	1.5" Square Drive w/reaction device
AHCTS-005K	1.5" Square Drive w/reaction device
AHCTS-010K	1.5" Square Drive w/reaction device
AHCTS-025K	2" Square Drive w/reaction device



# AUDITOR™ HIGH-CAPACITY TEST STANDS



**AIMTS-0500**  
Test Stand for small impact tools



**AIMTS-2000**  
Test Stand for large impact tools



**AHBTS-2500**  
Auto Release Test Stand for quickly testing large rotating tools

## AIMTS STANDS

These test stands are designed to test impact wrenches, it is necessary to bolt them to a bench. We also recommended that a rundown fixture is always used for testing impacts. These test stands are compatible with any Auditor Torque Analyzer.

MODEL	DESCRIPTION
AIMTS-0500	3/4" square drive impact test stand
AIMTS-2000	1.5" square drive impact test stand

## AHBTS STANDS

These test stands are for testing rotating tools without requiring the use of rundown fixtures. We utilize an airbrake for testing tools that cannot or should not be used in reverse. These test stands are compatible with any Auditor Torque Analyzer.

MODEL	DESCRIPTION
AHBTS-2500	1.5" square drive brake system w/reaction device, rotary transducer and display
AHBTS-5000	1.5" square drive brake system w/reaction device, rotary transducer and display

## UHT SERIES TESTERS

- Illustrate tension developed from tools tested
- Will work with virtually any tool, positive clutch, impact, pulse or gear driven tools
- Models with torque ranges from 1-8, 3-20, 20-50, 50- 300, 300-2000 Nm.

MODEL	DESCRIPTION
UHT-12	Torque Tester, Hydraulic, Cushion/Positive Clutch, 1-8 Nm
UHT-16	Torque Tester, Hydraulic, Impact Clutch, 3-20 Nm
UHT-25	Torque Tester, Hydraulic, 3/8", 20-50 Nm
UHT-35	Torque Tester, Hydraulic, 1/2", 50-300 Nm
UHT-50	Torque Tester, Hydraulic, 3/4" - 1", 300-2000 Nm



# UFT SERIES JOINT SIMULATORS

## UFT SERIES JOINT SIMULATORS

- AIMCO's UFT Joint Simulators offer the most repeatable and linear joint rate simulation of any product on the market.
- Pulse tool and continuous drive tool certification and testing.
- Consists of a bolt tightening body and a hydraulic pressure loading mechanism. A hydraulic pressure circuit connects these two bodies. Ideal for ISO 5393 test procedures.
- Three joint rates can be easily and quickly simulated by opening or closing two external valves.
- Specially coated testing bolt produces over 100,000 cycles without variation or deformation.



UFT-24



UFT-S10

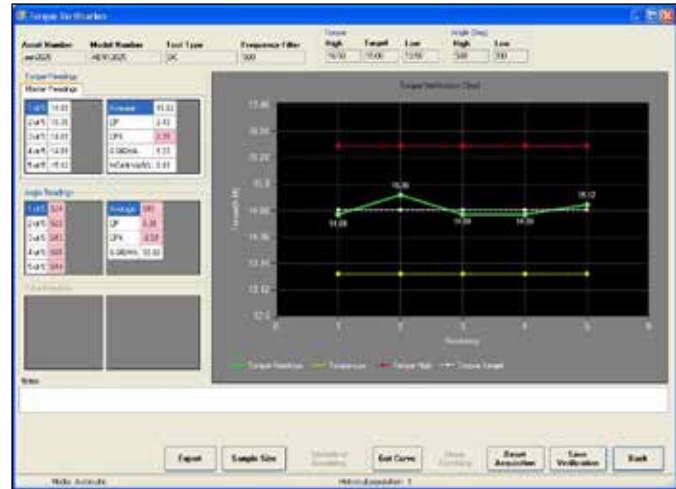
UFT-S16

MODEL	BOLT SIZE	TORQUE RANGE		SNUG TORQUE Nm	A-JOINT RATE Nm/deg	B-JOINT RATE Nm/deg	C-JOINT RATE Nm/deg	D-JOINT RATE Nm/deg	CENTER TO OUTSIDE X HEIGHT mm	WEIGHT	
		ft-lb	Nm							lb	kg
UFT-S10	M6	5 - 11	6.7 - 14.7	2.7	0.36	0.10	0.04	0.02	76 x 203	43	19.5
	M8	11 - 23	14.7 - 31.4	7.5	0.79	0.26	0.06	0.03			
	M10	23 - 40	31.4 - 53.9	14.9	1.22	0.35	0.09	0.06			
UFT-S16	M12	40 - 65	53.9 - 88.2	27.5	1.80	0.51	0.22	0.09	97 x 256	88	40
	M14	65 - 110	88.2 - 149	44.0	2.70	0.79	0.22	0.14			
	M16	110 - 140	149 - 190	73.5	4.70	1.22	0.35	0.21			
UFT-24*	M18	140 - 217	190 - 294						138 x 171	108	49.1
	M20	217 - 325	294 - 441								
	M24	325 - 506	441 - 686								

\* UFT-24 medium hard/soft joints only

Reaction fixture for continuous drive tools not included. Sockets included.

# AUDITOR™ TORQUE CART / TOOLSTRAC



## TORQUE CART

AIMCO offers torque carts for “lineside” or “point of use” tool validation and calibration. Our torque carts allow testing of tools on repeatable joint simulators and “in process” use on production joints, allowing users to identify process capability. There are multiple torque cart options:

- Manual push carts equipped with simple torque testers.
- Manual push carts equipped with data collectors and database application software.
- Self propelled cart with computer and relational database application.
- Driven cart with computer and relational database application.

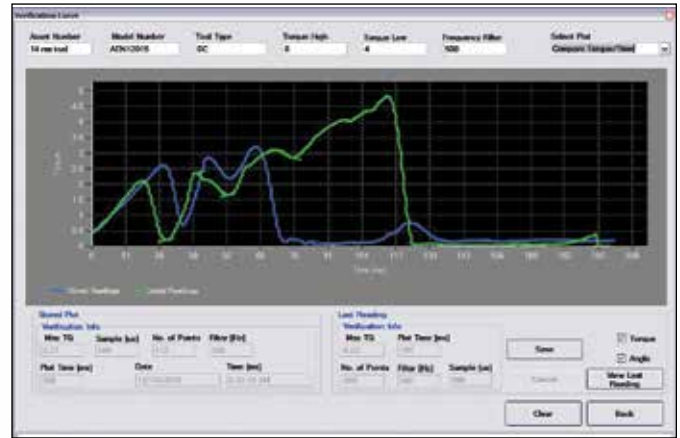
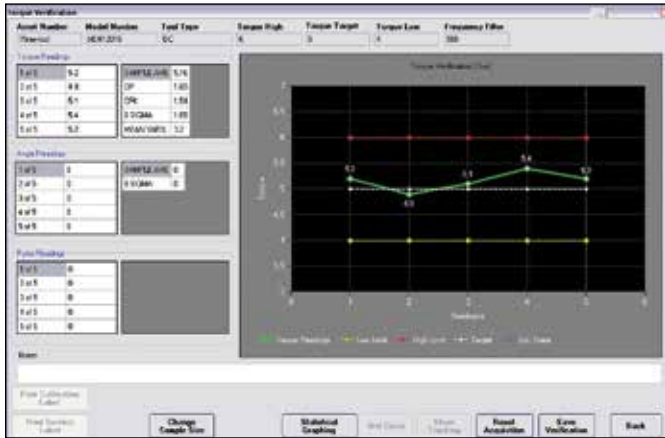
Each cart can be equipped to specific customer requirements. Maximum torque range on board torque cart is 1000 ft-lb or 1356 Nm. Ancillary test stands up to 50,000 ft-lb available.

## TOOLSTRAC

As the data management system within Auditor™ Torque Carts, ToolsTrac Software is a Total Tool Management, Verification and Calibration application. Users can manage their complete tool inventory with this application. ToolsTrac identifies where the tools are located, calibration and/or service schedule, initial cost as well as total cost of ownership for the life of the tool. The user can compare service, service cost, frequency of repair and accuracy between models and manufacturers of tools with ease.

This application features over 20 embedded reports as well as a Chrystal report editor allowing the user to build their own custom reports or select from pre-configured options. ToolsTrac can be used as a “stand-alone” application, or, using the ToolsTrac Kit, can be part of a bench top testing lab adding torque cart capabilities without the cart! There are no annual user fees or annual license fees for this software! There is nothing on the market that compares with this application – Auditor™ provides the best system at the best value!

# TOOLSTRAC



## TORQUE VERIFICATION

ToolsTrac displays sample values of torque, angle and pulse count. It calculates statistics: average, Cp, Cpk, 6 sigma and Mean variation. As values are measured they are graphically plotted on a X-bar range chart scaled to specification limits.

## TRACES

The axis of the traces can be torque/time, torque/angle, angle/time, torque/pulse count, pulse count/time, angle/pulse count. You can save a trace, retrieve it and overlay a new trace for comparison. The trace details are displayed at the bottom of the graph. Maximum values, plot time (ms), number of data points, filter frequency and sample rate.

Operation Name	Critical Operation	Description	Control Type	Joint Type	Torque High	Torque Target	Torque Low	Torque Threshold	Angle High	Angle Low	Angle Threshold
CP Angle	No	angle	Soft	24	20.000	20.000	1.500	50	45		
CP Pulse	No	torque	Hard	43	40.000	35.000	5.000	100	100		
CP Torque	No	torque	Hard	10	10.000	10.000	1.500	10	10		

Asset Number	Manufacturer	Model No.	Tool Type	Tool Design	Torque High	Torque Low	Torque Unit	Frequency Filter
ADN1015	AccuSpin	ADN1015	DC	Angle Head	10.100	3.000	Nm	500

Verification Date	Verification Time	Verified By	Verification Device	Joint Type	Random Target	Random Count	Verification Method	Passed	Verification
8/18/2010	7:41:52 PM	admin	Torque Cart	Hard	5	4	Operation	Yes	Yes
8/18/2010	3:28:17 PM	admin	Torque Cart	Hard	5	5	Operation	Yes	Yes
8/18/2010	3:28:41 PM	admin	Torque Cart	Hard	5	5	Operation	Yes	Yes

Sample	Master Torque	Statistic	Value	Sample	Master Angle	Statistic	Value	Sample	Master Pulse	Statistic	Value
1	12.885	CP	12.83	1	37	CP	11.55	1	0	CP	89.98
2	12.886	CP	11.28	2	37	CP	2.22	2	0	CP	89.98
3	12.729	6 SIGMA	0.42	3	38	6 SIGMA	3.48	3	0	6 SIGMA	0
4	12.729	MEAN VARI%	1.28	4	37			4	0		

Operation Name	Critical Operation	Description	Control Type	Joint Type	Torque High	Torque Target	Torque Low	Torque Threshold	Angle High	Angle Low	Angle Threshold
CP Angle	No	angle	Soft	24	20.000	20.000	1.500	50	45		
CP Pulse	No	torque	Hard	40	40.000	35.000	5.000	100	100		
CP Torque	No	torque	Hard	10	10.000	10.000	1.500	10	10		

Asset Number	Manufacturer	Model No.	Tool Type	Tool Design	Torque High	Torque Low	Torque Unit	Frequency Filter
ADN1015	AccuSpin	ADN1015	DC	Angle Head	10.100	3.000	Nm	500

Verification Date	Verification Time	Verified By	Verification Device	Joint Type	Random Target	Random Count	Verification Method	Passed	Verification
8/18/2010	3:41:52 PM	admin	Torque Cart	Hard	5	4	Operation	Yes	Yes
8/18/2010	3:28:17 PM	admin	Torque Cart	Hard	5	5	Operation	Yes	Yes
8/18/2010	3:28:41 PM	admin	Torque Cart	Hard	5	5	Operation	Yes	Yes

Sample	Master Torque	Statistic	Value	Sample	Master Angle	Statistic	Value	Sample	Master Pulse	Statistic	Value
1	12.885	CP	12.83	1	38	CP	11.55	1	0	CP	89.98
2	12.886	CP	11.28	2	37	CP	2.22	2	0	CP	89.98
3	12.729	6 SIGMA	0.42	3	38	6 SIGMA	3.48	3	0	6 SIGMA	0
4	12.729	MEAN VARI%	1.28	4	37			4	0		

## DATABASE INFORMATION

These screens show Operation lists and associated tools along with the historic test or quality data recorded. From the historic data screen you can launch statistical graphs to view and analyze archived data. The graphs include X-bar range, histogram, sigma, Cp & Cpk graphs.

# APPENDICES

## APPENDIX A: TRANSDUCER CONFIGURATOR

Model Number	Base Model Number (1-11)						
	1	2	3	4	5	6	7
Examples of part numbers	A	I	S	I	-	2	0
	A	I	S	F	-	2	0
	A	X	R	N	-	1	0
Transducer Options and Configuration	Auditor	Configuration	Type	Units		Angle	
		I = Intellect X = Industry Standard	R = Rotary S = Stationary W = Wireless	I = in lb F = ft lb N = NM		1 = Yes 2 = No	

Base model number (first 11 characters) describes Auditor, Configuration Intellect or Industry Standard, Type Rotary, Stationary or Wireless, Engineering Units In Lb, Ft Lb or NM, Angle Yes or No and Capacity.

To complete configuration of a 15 character part number select options and configuration sequentially from column 1 through 15. Columns 7-11 specify torque capacity.

## APPENDIX B: WRENCH CONFIGURATOR

Model Number Columns	Base Model Number (1-9)								
	1	2	3	4	5	6	7	8	9
Examples of part numbers	A	D	W	-	0	0	7	5	K
	A	D	W	-	0	0	1	0	K
	A	T	W	-	0	2	0	0	F
Wrench Options and Configuration	Auditor	Type	Wrench	Capacity					Style
		D = Digital T = Transducer							K = Katana D = Katana w/dovetail transducer F = "Stick" straight handle

Base model number (first 9 characters) describes Auditor, Type; Digital or Transducer, Capacity, Style; Katana, Katana w/Dovetail transducer or Stick.

To complete configuration of a 18 character part number select options and configuration sequentially from column 1 through 18. Columns 5-8 specify torque capacity.



# APPENDICES

8	9	10	11	12	13	14	15
0	0	5	0	1	2	1	2
0	7	5	0	1	2	1	5
0	1	8	0	2	2	2	4
Capacity				Fixture	Expanded Range	Digital Transducer	Drive Size
				1 = Bench Stand 2 = Inline 3 = Loader	1 = Yes 2 = No	1 = Yes 2 = No	1 = 1/4" Hex 2 = 1/4" Sq 3 = 3/8" Sq 4 = 1/2" Sq 5 = 3/4" Sq 6 = 1" Sq 7 = 1-1/2" Sq

The base model number is not a complete part number, - Fixture, Expanded Range, Digital Transducer and Drive Size must be specified by building complete part number.

10	11	12	13	14	15	Future Options (15-18)		
10	11	12	13	14	15	16	17	18
1	1	3	3	1	2	2	2	2
1	1	1	3	2	2	2	2	2
2	2	3	1	2	2	2	2	2
Data Collector	Bar Code Docking Station	Sq Dr	Configuration	Engineering Unit	Angle	Accelerometer	Graphics	Tone Generator
1 = Yes 2 = No	1 = Yes 2 = No	1 = 1/4" 2 = 3/8" 3 = 1/2" 4 = 3/4" 5 = 1" 6 = NA	1 = Intellect (intelligent td) 2 = IS (industry standard) 3 = NA (digital wrench)	1 = NM 2 = ft lb 3 = in lb	1 = Yes 2 = No	1 = Yes 2 = No	1 = Yes 2 = No	1 = Yes 2 = No
Not yet available so always enter 2 (No) for these options.								

The base model number is not a complete part number, - Data Collector, Bar Code & Docking Station, Sq Dr, Configuration, Engineering Unit and Future Options must be specified by completing 18 character part number.

# APPENDICES

## APPENDIX C: TEST STAND CONFIGURATOR

	Base Model Number (1-10)									
Model Number Columns	1	2	3	4	5	6	7	8	9	10
Example of part numbers	A	H	C	T	S	-	5	0	0	0
	A	H	C	T	S	-	5	0	0	0
	A	H	C	T	S	-	0	0	5	K
	A	H	B	T	S	-	2	0	0	0
Test Stand Configuration and options	Auditor	High	Cap	Test	Stand		Configuration & Capacity K= Hydraulic			

Base model number (first 10 characters) describes Auditor, High, Capacity or Brake, Test Stand, Torque Capacity and Configuration; Rotary or Hydraulic (K).

To complete configuration of a 18 character part number select options and configuration sequentially from column 1 through 18. Columns 7-10 specify torque capacity.

# APPENDICES

11	12	13	14	15	16	17	18
1	3	3	5	7	1	1	2
6	2	3	5	1	1	2	2
1							
4							
Display Options	Legs	Base Dimension	Rundown Fixture Options	Reaction Post Options	Casters	Arm for Display	Digital Module
1 = ATDA	1 = 6" Legs	0 = 8" x 8"	1 = 500 ft lb capacity	1 = 6" Post	1 = Yes	1 = Yes	1 = Yes
2 = No Embedded display	2 = No Legs	1 = 12' x 12"	2 = No rundown fixture	2 = No Post	2 = No	2 = No	2 = No
3 = ATDA-DC	3 = 18" Legs	3 = 14" x 19"	3 = 1000 ft lb capacity	3 = 6" Posts			
4 = ATDA-8000 (7)	4 = Custom Legs in 6" increments	4 = 18" x 24"	4 = 2500 ft lb capacity	4 = Paddles			
5 = ATDA-8000-10 (10)		5 = 18" x 36"	5 = 5000 ft lb capacity	5 = Custom			
6 = Embedded Display		6 = NA no base plate	6 = 7500 ft lb capacity	6 = 9" Post			
7 = ATRC Module				7 = 9" Posts			

The base model number is not a complete part number, - Display Options, Legs, Base Dimension, Rundown Fixture, Reaction Post, Casters, Arm and Digital Module must be specified by building complete part number.



#### **AIMCO CORPORATE HEADQUARTERS**

10000 SE PINE STREET  
PORTLAND, OREGON 97216

PHONE: (503) 254-6600  
TOLL FREE: 1-800-852-1368

#### **AIMCO CORPORATION DE MEXICO SA DE CV**

AVE. CRISTOBAL COLON 14529  
CHIHUAHUA, CHIHUAHUA. 31125  
MEXICO

PHONE : (01-614) 380-1010  
FAX : (01-614) 380-1019

#### **AIMCO CHINA**

ROOM 607, NO.3998 HONGXIN RD,  
DIBAO PLAZA, MINHANG DISTRICT,  
SHANGHAI, 201103  
CHINA

PHONE: 0086-21-34319246  
FAX: 0086-21-34319245

#### **AIMCO SPAIN**

AVENIDA RÍO GALLO, 431  
19174 GALÁPAGOS - GUADALAJARA  
SPAIN

PHONE: +34 673 34 99 25

[WWW.AIMCO-GLOBAL.COM](http://WWW.AIMCO-GLOBAL.COM)

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