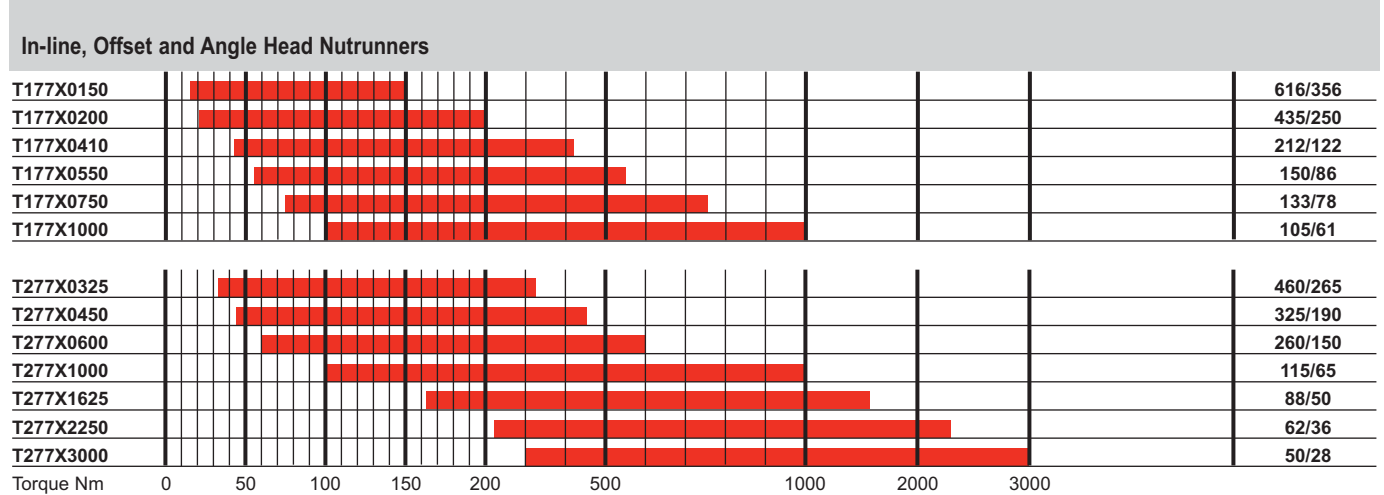


# Torque Range

## Performance of 177/277 Series Electric Nutrunners



## 177/277 Series In-Line Nutrunners - CS



From left:  
 177 Series 150 to 200 Nm In-line  
 277 Series 1,000 Nm  
 277 Series 325 to 600 Nm In-line  
 277 Series 1,625 to 3,000 Nm In-line

MODEL NUMBER	PART NUMBER	TORQUE			RPM		WEIGHT		LENGTH**		WIDTH		HEIGHT		SIDE TO CENTER	
		ft-lb	kgfm	Nm	Hi	Lo	lb	kg	in	mm	in	mm	in	mm	in	mm
T177I0150A1R	615 004 060 5	111	15.3	150	616	356	18.5	8.4	22.6	574	2.36	59.9	3.94	100.1	1.18	30.0
T177I0200A1R	615 004 060 6	148	20.4	200	435	250	18.5	8.4	22.6	574	2.36	59.9	3.94	100.1	1.18	30.0
T177I0410A1R	615 004 060 7	302	41.8	410	212	122	32.2	14.6	27.6	701	2.75	69.9	5.82	147.8	1.38	35.1
T177I0550A1R	615 004 060 8	406	56.1	550	150	86	32.2	14.6	27.6	701	2.75	69.9	5.82	147.8	1.38	35.1
T177I0750A1R	615 004 103 4	553	76.5	750	133	78	46.7	21.2	31.4	798	3.25	82.6	6.08	154.4	1.65	41.9
T177I1000A1R	615 004 060 9	738	102	1,000	105	61	46.7	21.2	31.4	798	3.25	82.6	6.08	154.4	1.65	41.9
T277I0325A1S	615 004 061 1	240	33.1	325	460	265	47.5	21.5	30.2	767	3.25	82.6	6.08	154.4	1.65	41.9
T277I0450A1R	615 004 103 5	332	45.9	450	325	190	47.5	21.5	30.2	767	3.25	82.6	6.08	154.4	1.65	41.9
T277I0600A1R	615 004 061 2	443	61.2	600	260	150	47.5	21.5	30.2	767	3.25	82.6	6.08	154.4	1.65	41.9
T277I1000A1S	615 004 061 3	738	102	1,000	115	65	57.2	25.9	33.5	851	3.25	82.6	6.08	154.4	1.65	41.9
T277I1625A1R	615 004 061 4	1,199	166	1,625	88	50	84.8	38.5	36.7	932	4.92	125.0	7.10	180.3	2.46	62.5
T277I2250A1S	615 004 061 5	1,660	229	2,250	62	36	84.8	38.5	36.7	932	4.92	125.0	7.10	180.3	2.46	62.5
T277I3000A1R	615 004 061 6	2,213	306	3,000	50	28	84.8	38.5	36.7	932	4.92	125.0	7.10	180.3	2.46	62.5

Durability: 1-million cycles for 177 Series 150-750 Nm and 277 Series 325-600 Nm; 500,000 cycles for 177 Series 1,000 Nm and 277 Series 1,000-3,000 Nm

\* To specify a second transducer (audited by an external torque/angle measuring device), substitute A2X for A1X at the end of the part number. X = R for rear exit cable connection or S for side exit.

\*\* Length is measured from the rear of the tool to the mounting face on the first transducer, or to the torque multiplier on 277 Series models 1,625 Nm and higher.



# Technical Features

## CS7000 Range

MAIN FUNCTIONS	VERSIONS	
	CS5000	CS7000
Number of channels	2-32	1-32
Number of parameter sets	1-32	128
Number of sequences (phases)	16	32
Number of steps (cycles)	32/sequence	
Batch count	99	99
Real time statistics – 6 Sigma, CR, Cpk, St Dev, Pop, Mean, Low, High, Range	✓	✓
Bar code reading	✓	✓
Synchronization of spindles	✓	✓

TIGHTENING RESULTS	CS5000	CS7000
Torque + Angle + Date + Time + Report	Up to 2,000/controller	Up to 5,000/controller
Number of curves	1 accept, 1 reject/spindle	1 accept, 1 reject /spindle

TIGHTENING STRATEGIES	CS5000	CS7000
<b>Control Strategies</b> (Use any of these with any/all of the Monitoring Strategies)		
Torque only	✓	✓
Torque and angle	✓	✓
Yield	✓	✓
<b>Monitoring Strategies</b>		
Torque only	✓	✓
Torque and angle	✓	✓
Yield	✓	✓
Prevailing torque	✓	✓
Self-tap	✓	✓
Re-hit	✓	✓

EXTERNAL CONNECTIVITY	CS5000	CS7000
Input	8	12
Output	8	12
RS232 programming port		✓
Serial printer/barcode scanner port (dual function)	✓	✓
High speed RS485 port (SDLC)	✓	✓

ADVANCED OPTIONS	CS5000	CS7000
Ethernet or SDLC or RF	✓	✓
Fieldbus: DeviceNet, Modbus TCP/Ethernet IP, Profibus DPV1	✓	✓
Plant Floor Communication System (PFCS)	✓	✓

MAINTENANCE	CS5000	CS7000
Access to all tools parameters for setup	✓	✓
Access to all I/O for troubleshooting	✓	✓
Serial/Diagnostics port		✓

PROGRAMMING	CS5000	CS7000
Full keypad + large LCD screen + function keys		✓
Laptop PC laded with VS software	✓	✓
Keyboard or touch screen monitor	✓	✓
Visual Supervisor (VS) software	✓	✓
Supply Voltage 120V		
Supply Voltage 230V	✓	✓
Supply Voltage 480V with step down transformer	✓	✓

CS5000 Controllers				
Model	Part Number	Description	Dimensions (W x H x D)	Weight
485000-36269	615 004 070 3	CS5000 Workstation, Industrial PC with built-in monitor, keypad/mouse, SDLC	52.1 x 54.6* x 41.9** cm 20.5 x 21.5* x 16.5** in	35.22 kg 77.66 lb

\*Height includes mounting flanges

\*\*Depth includes handles

Multi-spindle CS5000 Controllers can be customized for your particular application.



# CS7000 Controllers

## For in-plant networking and high torque tightening system communication

CP provides in-plant network communications to the rugged 177/277 Series of Hi-Torque resolver-based intelligent nutrunners via the CS7000 Controller. Torque for these nutrunners ranges from 150 to 3,000 Nm. Applications include automotive, off-highway, aerospace and other markets. In-line, offset and right angle spindles are available.

The standard CS7000 Controller is available with one or two channels in a compact enclosure. Each front panel dial (1 or 2, depending on number of channels) is used to select up to 8 parameter sets (or sequences) per spindle. Digital I/O or software can be used to select up to 128 parameter sets or 16 sequences.



### Dimensions

<b>Overall width:</b>	406 mm/16 in
<b>Overall height:</b>	470 mm/17 in
<b>Depth:</b>	279 mm/11 in
<b>Space requirement (w x h x d):</b>	mm: 406 x 711 x 279 inches: 16 x 28 x 11
<b>Mounting hole diameter</b>	09.6 mm/.38 in
<b>Distance between centers of mounting holes:</b>	
Width:	356 mm/14 in
Height:	496 mm/19.5 in
<b>Weight:</b>	1 Channel: 25 kg/55 lb 2 Channels: 28 kg/62 lb

### Network Flexibility

CP provides a variety of in-plant data transfer solutions for industrial networks. Networking options for the stand-alone CS7000 Controller include Ethernet or synchronous data link communication (SDLC) via a high-speed 485 connector. A communications module provides Ethernet connectivity for interface with the Visual Supervisor (VS) system setup, data collection and diagnostics program on a LAN, custom proprietary network, or over various field buses.

### Getting Connected

Two RS-232 ports per channel provide for laptop PC connection (for VS programming) and printer/barcode scanner. I/O and tool connectors are standard. Ethernet and SDLC connectors are optional.

### Intelligence

The powered-on CS7000 Controller immediately recognizes the intelligent 177/277 Series spindle, attached via the cable with 1/4-turn SMC metal connector. Intelligence identifies the tool and its capabilities to the CS7000 Controller and provides automatic calibration and capacity protection.

Tightening information is instantly displayed on the controller, tool (and optionally attached laptop PC loaded with the VS software) and is quickly downloaded for storage on or off network.



Custom CS7000 controls  
16 Hi-Torque 177 Series spindles

### Customization

Custom CS7000 Controllers, with choice of 230V or 480V, can accommodate as many as 32 177/277 series spindles.

MODEL NUMBER.	PART NUMBER	PSET DIAL(S)	CHANNELS / TCMS	USER INTERFACE*	VOLTS	PHASE	NETWORK INTERFACE	DIMENSIONS (W X H X D)	WEIGHT	
									kg	lb.
C7000BP1N21	615 004 070 0	1	1	None	220/230	1	None	406 x 470 x 279 mm 16 x 17 x 11 in	25	55
C7000BP2N21	615 004 070 2	2	2	None	220/230	1	None	406 x 470 x 279 mm 16 x 17 x 11 in	28	62
C7000BP1N21051	615 004 070 1	1	1	None	220/230	1	Ethernet	406 x 470 x 279 mm 16 x 17 x 11 in	25	55

### REQUIRED ACCESSORIES

DESCRIPTION	LENGTH		PART NO.	MODEL NO.
	m	ft		
Tool cable/extension cable	1	3.2	51-3277-001TEM	615 004 074 1
Tool cable/extension cable	5	16.4	51-3277-005TEM	615 004 074 2
Tool cable/extension cable	10	32.8	51-3277-010TEM	615 004 074 3
Tool cable/extension cable	20	65.5	51-3277-020TEM	615 004 074 4
Tool cable/extension cable	30	98.4	51-3277-030TEM	615 004 074 5

