



**MANUFACTURING & ASSEMBLY**



**SOLUTIONS**

## Precise Torque Screwdrivers



Pages 2-3

## Angle Nutrunners & Brushless Angle Nutrunners



Pages 4-5

## Impact Drivers & Wrenches



Pages 6-7

## MAKSTAR® Battery & Charger System & Accessories



Pages 8-9

### INNOVATIVE CORDLESS TECHNOLOGY

Makita designs and manufactures innovative cordless tools utilizing the latest advanced technology that allows professionals the ability to use cordless tools on tasks previously thought to be impossible. Our goal in designing manufacturing & assembly cordless tools is to break away from the historical method of costly air hose operation and allow the operator freedom with a powerful, accurate and ergonomic solution.

Makita cordless tools are steadily emerging as the fastening system of choice within the Assembly and Manufacturing industries. While manufacturing processes were once dominated by air tools, manufacturers are recognizing the many advantages of using Makita cordless tools, such as, reduced energy costs, more freedom and increased safety at the workplace. To meet the needs of today's manufacturers, Makita has developed a full range of assembly and manufacturing cordless power tools that are designed for precise torque accuracy. Makita cordless tools are your cost saving solutions.

### REDUCED ENERGY COSTS

- **Less Energy Consumption** needed to power cordless tools than to power air tools
- **Extreme Energy Savings** by eliminating air line and air tool leakage
- **Higher Quality Control** by reducing damage to manufactured products often caused by hoses and cords
- **Reduced Operating Costs** and down time by eliminating oilers and oil maintenance
- **Reduced Maintenance Costs** by minimizing down time to repair damaged products

### MORE FREEDOM

- **More Flexibility** to roam from one workspace to the next
- **Greater Access and Maneuverability** in confined workspaces and inside closed compartments
- **Increased Efficiency** with the ability to interchange tools from one application to the next
- **Easier to Reposition Fastening System** when assembly lines need to be rerouted, expanded or eliminated
- **Quicker Recoveries** from power interruptions

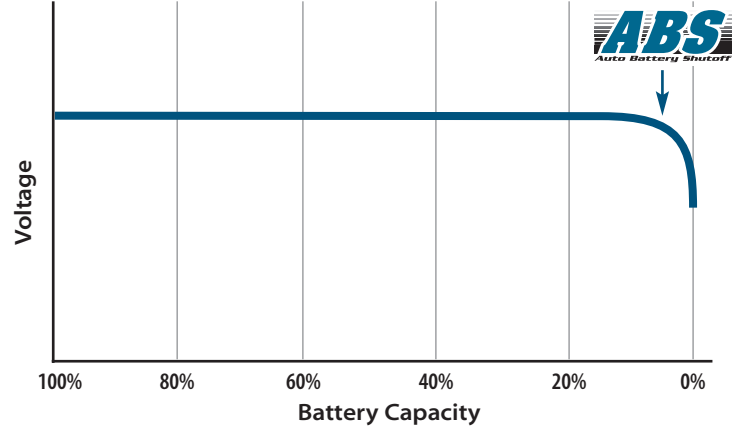
### SAFER WORKPLACE

- **Reduced Hazards** caused by air hoses laying across floors or hanging from ceiling
- **Decreased Risk** of jammed electric cords
- **Lighter Weight with Ergonomic Design** for operator control
- **Lower Vibration and Noise** for operator comfort
- **Environmentally Friendly**

## SMART SYSTEM



Innovative developments, such as, Auto Battery Shutoff (ABS) with indication lamp and beeper technology are designed for critical fastening applications that require precise and consistent torque control. ABS shuts off the tool when battery capacity is less than 5% and the indication lamp and beeper utilizes precision sensors to indicate sufficient and insufficient fastening and battery power.



## REPETITIVE ACCURACY



Makita's Cordless Assembly and Manufacturing tools are engineered to precise specifications.

With torque accuracy up to +/- 7% at Cm > 1.67, Makita's cordless tools deliver proper torque control ensuring that threaded fasteners are tightened to proper specification.

## MAKSTAR® SYSTEM

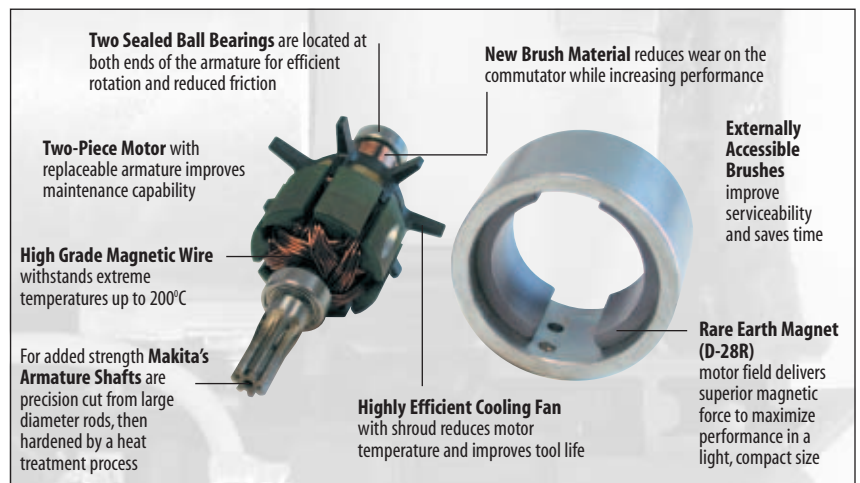
**MAKSTAR®** Makita's MAKSTAR® System features the most advanced in battery technology. Utilizing a new innovative battery cell design size, MAKSTAR® batteries deliver extreme power at a very low weight. With advanced features, such as, a patented Forced Air-Cooling System, a built-in dust-proof Memory Chip (CPU), a Computerized Digital Communication System and Shock Absorbing Construction, its no wonder why Makita leads the industry with superior battery and charger technology.

## ADVANCED TECHNOLOGY



Makita has been designing and manufacturing the highest quality motor in the industrial power tool industry for nearly 90 years. Our high performance motors last longer and are more efficient than competing motors because we utilize the latest technology and the best raw materials. Makita DC motors have the following characteristics that prove to set the standard for quality, reliability and performance:

- **Exclusive Externally Accessible Brushes** extend the life of the motor by up to five times by allowing for quick and easy servicing
- **Newly Developed Brush Material** is commutator friendly for reduced sparks, allowing increased motor performance and reduced wear on the commutator
- **Thicker Armature Shaft** will handle greater torque for heavy duty applications
- **More Armature Poles** to create a stronger electrical current and generate more power
- **Dual Ball Bearings** creates less friction and thus a smoother running motor than competitive motors that have one bearing and one bushing
- **Larger Fan** for a cooler running motor and longer life out of the motor
- **Strategically Located Heat Sink** in the cooling path of the motor to dissipate heat away from the switch
- **Thicker Gauge Lead Wires** than the competition for more efficient current flow
- **Motor Design** - Two-piece motor offers easy serviceability while delivering extreme performance

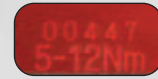




**Higher Torque Accuracy**  
+/- 7% at  $C_m \geq 1.67$

**Torque Set Window**  
allows the operator to view the desired torque setting

**Preset Torque**  
Once the preset desired torque is achieved, the tool automatically stops



**Color Coded Identification Plate**  
for easy tool and application identification

**Rubber Chuck Cover**  
to protect the workpiece

**"Quick Change" 1/4" Hex Shank Chuck**

**Externally Accessible Brushes** for convenience and longer tool life

**Built-in L.E.D. Lamps** activate when trigger is pulled for low light conditions

**Two-Piece D-28R Motor** with replaceable armature and powerful rare earth magnet

**Conveniently Located Forward/Reverse Switch**



**Large On/Off Switch** Equipped with a Delayed Re-Start

**Indication Lamp and Beeper**

**Nut and Bolt Construction** allows repeat disassembly, preventing damage to the housing

**Anti-Slip Dimpled Grip** provides comfort and operator control



**Auto Battery Shutoff** Ensures consistent fastening torque

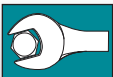
**Fuel Gauge Lamp** indicates percentage of remaining battery fuel



**Built-in Electronic System**  
Soft start to suppress return torque at start-up  
Delayed restarter controls the motor so that it does not start until one second passes after a screw has been driven; the motor does not start even if switch trigger is pulled  
Reduces deviation from pre-set fastening torque caused by unintentional over-tightening

**Utilizing ISO5393 Standards** models BFT040FZ, BFT080FZ, BFT122FZ & BFT123FZ provide a high machine capability (Cm)

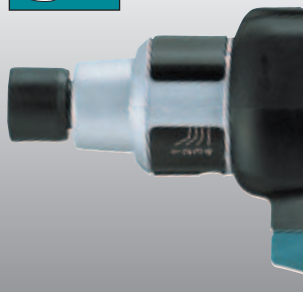
## Model BFT122FZ



### REPETITIVE ACCURACY

#### Torque Accuracy

- Torque accuracy of: +/- 7%
- $C_m \geq 1.67$
- Soft start trigger to suppress return torque at start-up



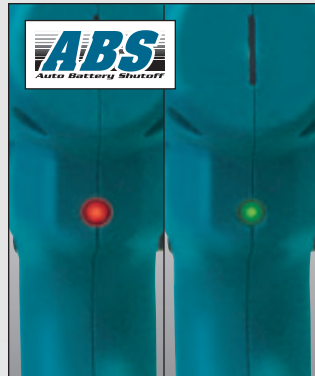
### SMART SYSTEM

#### Auto Battery Shutoff

- Shuts off the tool when battery capacity is less than 5%
- Ensures consistent fastening torque

#### Indication Lamp and Beeper

- Precision sensor indicates fastening sufficiency and battery power conditions with light and/or beeping

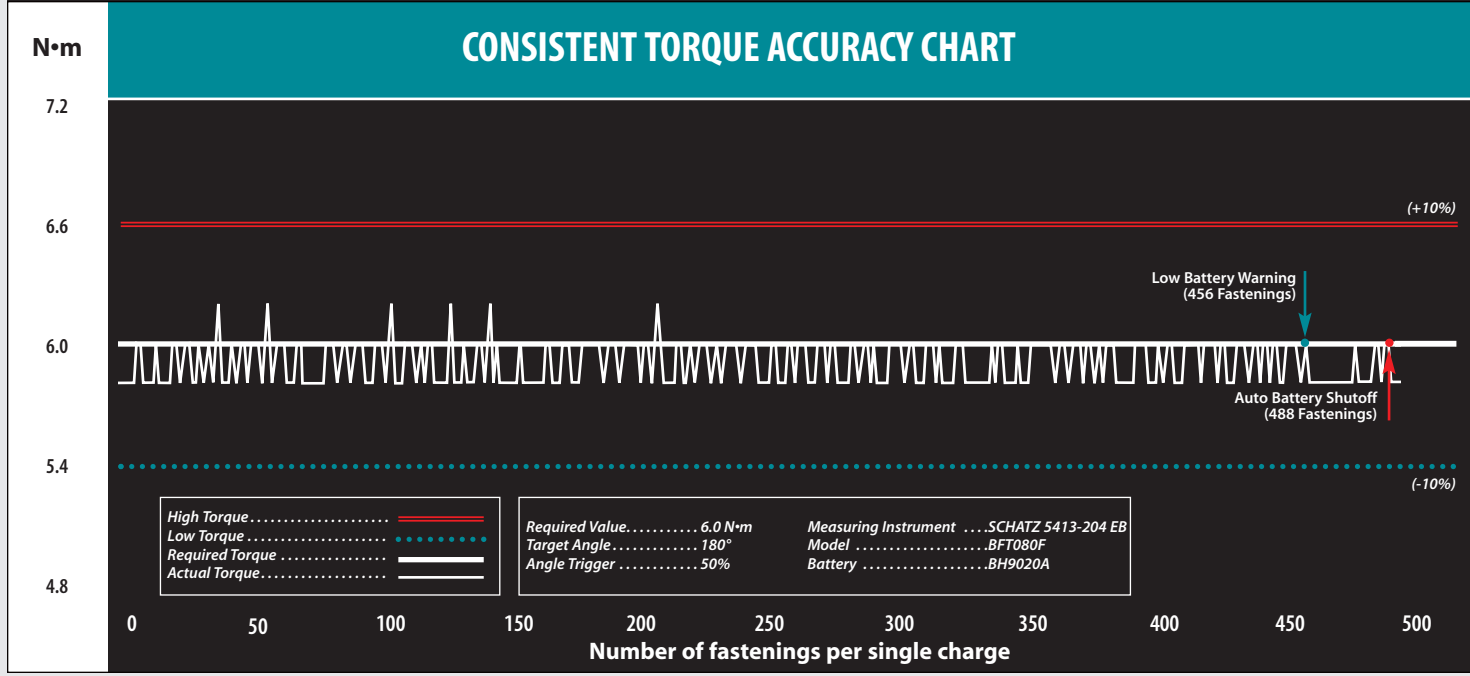


# PRECISE TORQUE CONTROL SCREWDRIVERS



	<b>BFT040FZ (1-3.5 N-m)</b>	<b>BFT080FZ (3-6.5 N-m)</b>	<b>BFT122FZ (5-10 N-m)</b>	<b>BFT081FZ (3-8 N-m)</b>	<b>BFT123FZ (5-12 N-m)</b>
Voltage	9.6V	9.6V	9.6V	12V	12V
Capacities	1/4" Hex Shank	1/4" Hex Shank	1/4" Hex Shank	1/4" Hex Shank	1/4" Hex Shank
Fastening Torque [N·m (in.lbs.)]:					
(Hard)	1-4 (8.9-35.4)	3-8 (26.6-70.8)	5-12 (44.3-106)	3-8 (26.6-70.8)	5-12 (44.3-106)
(Soft)	1-3.5 (8.9-31.0)	3-6.5 (26.6-57.5)	5-10 (44.3-88.5)	3-8 (26.6-70.8)	5-12 (44.3-106)
No Load Speed (RPM)	950	540	320	700	390
Length	7-7/8"	7-7/8"	7-7/8"	7-7/8"	7-7/8"
Height (w/Battery)	9-7/8"	9-7/8"	9-7/8"	10-1/4"	10-1/4"
Width	2-9/16"	2-9/16"	2-9/16"	2-13/16"	2-13/16"
Weight (w/Battery)	2.9 lbs.	2.9 lbs.	2.9 lbs.	3.5 lbs.	3.5 lbs.
Battery	BH9033A, BH9020A	BH9033A, BH9020A	BH9033A, BH9020A	BH1233C, BH1220C	BH1233C, BH1220C

\*Hard Torque



### ADVANCED TECHNOLOGY

#### Two-Piece D-28 Motor

- Replaceable armature allows greater serviceability
- Dual sealed ball bearings for less friction and greater efficiency
- High performance fan reduces temperatures and increases tool life
- High-grade magnet generates maximum performance



### COLOR CODING

#### Application Specific

- Each color coded identification plate indicates specific torque range
- Color coding allows operator to easily distinguish each tool



**Higher Torque Accuracy**  
+/- 7% at  $C_m \geq 1.67$

**Torque Adjusting System**  
for manufacturing lines;  
Impossible to change  
fastening torque previously  
set by factory without  
grip adjustment

**Color Coded  
Identification Plate**  
for easy tool and  
application identification



**Indication Lamp and Beeper**

**Two-Piece D-28R Motor**  
with replaceable armature and  
powerful rare earth magnet



1-1/8"

**Extra-Rigid  
Aluminum-Alloy  
Angle Head**

**Built-in Job Light**  
lights up automatically  
with start of motor and  
remains on for 10 seconds  
after switching off

**Conveniently Located  
Forward/Reverse Switch**

**Easy On/Off Switch**  
Equipped with a Delayed Re-Start

**Anti-Slip Dimpled Grip**

**Built-in Electronic System**  
Soft start to suppress return  
torque at start-up

Delayed restarter controls  
the motor so that it does not  
start until one second passes  
after a screw has been  
driven; the motor does not  
start even if switch trigger  
is pulled

Reduces deviation from  
pre-set fastening torque  
caused by unintentional  
over-tightening



**Auto Battery Shutoff**  
Ensures consistent  
fastening torque

**Model BFL121FZ**

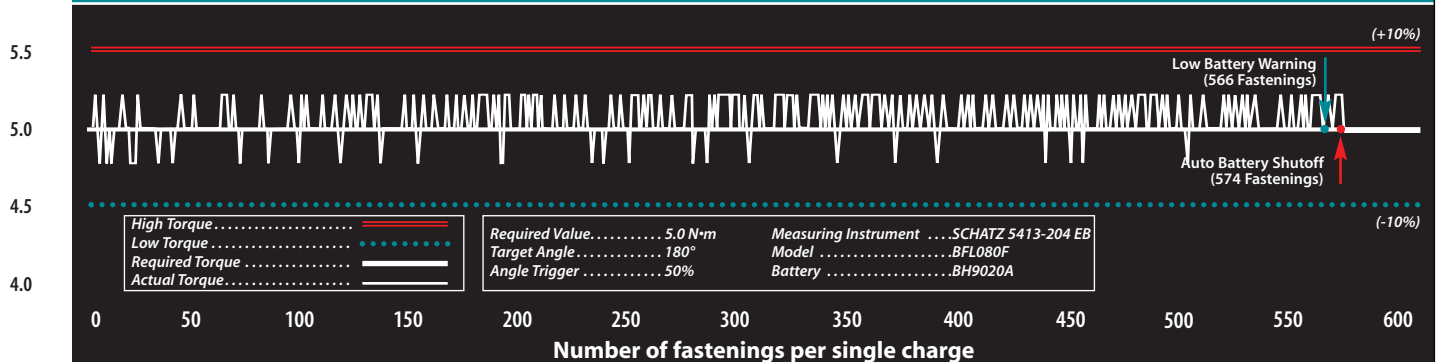
## ANGLE NUTRUNNERS



	<b>BFL080FZ (2-7.5 N·m)</b>	<b>BFL120FZ (5-12 N·m)</b>	<b>BFL081FZ (2-7.5 N·m)</b>	<b>BFL121FZ (5-11.5 N·m)</b>	<b>BFL200FZ (8-18 N·m)</b>
Voltage	9.6V	9.6V	12V	12V	12V
Capacities	3/8" Square Drive	3/8" Square Drive	3/8" Square Drive	3/8" Square Drive	3/8" Square Drive
Fastening Torque [N·m (in.lbs.)]:					
(Hard)	2-8 (17.7-70.8)	5-12 (44.3-106)	2-8 (17.7-70.8)	5-12 (44.3-106)	8-20 (70.9-177)
(Soft)	2-7.5 (17.7-66.4)	5-12 (44.3-106)	2-7.5 (17.7-66.4)	5-11.5 (44.3-102)	8-18 (70.9-159)
No Load Speed (RPM)	450	250	700	410	220
Length (w/Battery)	17"	17"	16-1/4"	17"	17"
Height	2-15/16"	2-15/16"	3-5/8"	3-5/8"	3-5/8"
Width	2-9/16"	2-9/16"	2-15/16"	2-13/16"	2-13/16"
Weight (w/Battery)	3.3 lbs.	3.3 lbs.	3.5 lbs.	3.3 lbs.	3.3 lbs.
Battery	BH9033A, BH9020A	BH9033A, BH9020A	BH1233C, BH1220C	BH1233C, BH1220C	BH1233C, BH1220C

**N·m**

## CONSISTENT TORQUE ACCURACY CHART



# BRUSHLESS ANGLE NUTRUNNERS



**Higher Torque Accuracy**  
+/- 7% at Cm ≥ 1.67

**Torque Adjusting System** for manufacturing lines; Impossible to change fastening torque previously set by factory without grip adjustment



**Color Coded Identification Plate**

**Indication Lamp and Beeper**



**Brushless Motor** for higher no load speed and more powerful and faster driving

**MAKSTAR®**

**MAKSTAR® Battery**  
New battery cell configuration for more power and efficiency

1-5/16"

**Extra-Rigid Aluminum-Alloy Angle Head**

**Conveniently Located Forward/Reverse Switch**

**Easy On/Off Switch** Equipped with a Delayed Re-Start

**Built-in Job Light** lights up automatically with start of motor and remains on for 10 seconds after switching off



**Auto Battery Shutoff** Ensures consistent fastening torque



**Optional Paddle Switch Adapter** converts trigger switch to paddle switch for easy operation

**Built-in Electronic System** Soft start to suppress return torque at start-up

Delayed restarter controls the motor so that it does not start until one second passes after a screw has been driven; the motor does not start even if switch trigger is pulled

Reduces deviation from pre-set fastening torque caused by unintentional over-tightening

**Model BFL400FZ**

## BRUSHLESS ANGLE NUTRUNNERS



**BFL300FZ (16-30 N-m)**



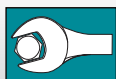
**BFL400FZ (25-40 N-m)**

	BFL300FZ (16-30 N-m)	BFL400FZ (25-40 N-m)
Voltage	14.4V	14.4V
Capacities	3/8" Square Drive	3/8" Square Drive
Fastening Torque [N-m (in.lbs.)]:		
(Hard)	16-30 (142-266)	25-40 (221-354)
(Soft)	16-30 (142-266)	25-40 (221-354)
No Load Speed (RPM)	400	260
Length (w/Battery)	20"	20-1/4"
Height	4-1/8"	4-1/8"
Width	2-7/8"	2-7/8"
Weight (w/Battery)	5.3 lbs.	5.5 lbs.
Battery	BH1427	BH1427

## ADVANCED TECHNOLOGY

### DC Brushless Motor

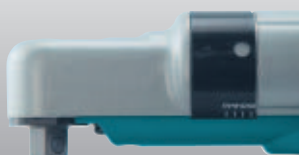
- Generates higher no load speed
- Dual ball bearings for greater efficiency and longer life
- Maintenance free through service life of ball bearings
- Brush free motor reduces noise



## REPETITIVE ACCURACY

### Torque Accuracy

- Torque accuracy of: +/- 7%
- Cm ≥ 1.67
- Soft start trigger to suppress return torque at start-up



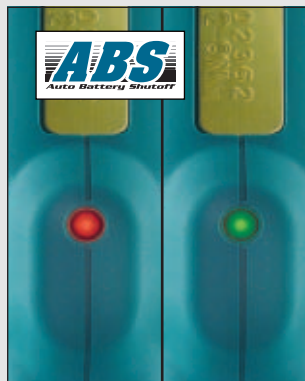
## SMART SYSTEM

### Auto Battery Shutoff

- Shuts off the tool when battery capacity is less than 5%
- Ensures consistent fastening torque

### Indication Lamp and Beeper

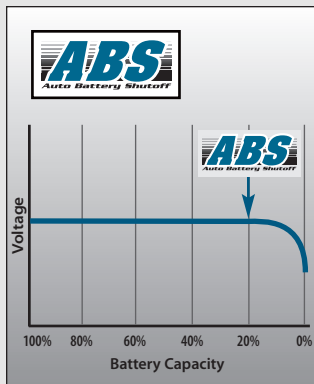
- Precision sensor indicates fastening sufficiency and battery power conditions with light and/or beeping



**Model BTD061Z**

## IMPACT DRIVERS

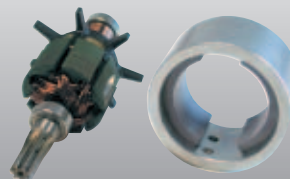
IMPACT DRIVERS					IMPACT WRENCH	
<b>BTD040Z (40 N-m)</b>	<b>BTD042Z (40 N-m)</b>	<b>BTD061SAG/BTD061Z (65 N-m)</b>	<b>BTD062Z (65 N-m)</b>	<b>BTW070Z/BTW072Z (65 N-m)</b>		
Voltage	9.6V	9.6V	9.6V	9.6V	9.6V	9.6V
Capacities	1/4" Hex Shank	1/4" Hex Shank	1/4" Hex Shank	1/4" Hex Shank	3/8" Square Drive	
Fastening Torque: [N-m (in.lbs.)]	40 (354)	up to 40 (354)	65 (575)	up to 65 (575)	BTW070Z 65 (575)	BTW072Z up to 65 (575)
No Load Speed (RPM)	0 - 2,500	0 - 2,500	0 - 2,500	0 - 2,500	0 - 2,500	0 - 2,500
Impacts per Minute (IPM)	0 - 3,500	0 - 3,500	0 - 3,000	0 - 3,000	0 - 3,000	0 - 3,000
Length	6-7/16"	6-7/16"	6-7/16"	6-7/16"	6-1/2"	6-1/2"
Height (w/Battery)	9-5/16"	9-5/16"	9-5/16"	9-5/16"	9-5/16"	9-5/16"
Width	2-5/8"	2-5/8"	2-5/8"	2-5/8"	2-5/8"	2-5/8"
Weight (w/Battery)	2.3 lbs.	2.4 lbs.	2.4 lbs.	2.5 lbs.	2.5 lbs.	2.5 lbs.
Battery	BH9033A, BH9020A	BH9033A, BH9020A	BH9033A, BH9020A	BH9033A, BH9020A	BH9033A, BH9020A	



### SMART SYSTEM

#### Auto Battery Shutoff

- Shuts-off the tool when battery capacity is less than 20%
- Ensures consistent fastening torque



### ADVANCED TECHNOLOGY

#### Two-Piece D-28 Motor

- Replaceable armature allows greater serviceability
- Dual sealed ball bearings for less friction and greater efficiency
- High performance fan reduces temperatures and increases tool life
- High-grade magnet generates maximum performance



Model BTW150SAE

## IMPACT DRIVERS

## IMPACT WRENCHES



Model BTD120SAE includes Kit    Model BTD150SAE includes Kit    Model BTW120SAE includes VTS    Model BTW151SA includes VTS    Model BTW200SAE

	12V		14.4V		12V		14.4V		24V
	1/4" Hex Shank		1/4" Hex Shank		1/2" Square Drive		1/2" Square Drive		1/2" Square Drive
Fastening Torque: [N·m (in.lbs.):]	100 (885)		130 (1,150)		BTW120SAE	120 (1,060)	BTW150SAE	150 (1,330)	200 (1,770)
					BTW121SA	up to 120 (1,060)	BTW151SA	up to 150 (1,330)	
No Load Speed (RPM)	0 - 2,300		0 - 2,300		0 - 2,300		0 - 2,300	0 - 1,600 low/0 - 2,000 high	
Impacts per Minute (IPM)	0 - 3,000		0 - 3,000		0 - 3,000		0 - 3,000	0 - 2,500 low/0 - 3,000 high	
Length	6-5/8"		7-1/2"		6-15/16"		7-5/8"	8-7/8"	
Height (w/Battery)	9-7/8"		10"		9-7/8"		10"	10-7/8"	
Width	2-15/16"		3-1/16"		2-15/16"		3-1/16"	3-3/8"	
Weight (w/Battery)	3.3 lbs.		4.0 lbs.		3.3 lbs.		4.2 lbs.	6.1 lbs.	
Battery	BH1233C, BH1220C		BH1433, BH1427, BH1420		BH1233C, BH1220C		BH1433, BH1427, BH1420		B2433, BH2420



### REPETITIVE ACCURACY

#### Vari-Torque System

- VTS allows the operator to adjust the number of impacts to match the fastening application
- Prevents over-tightening that could cause the fastener to fail
- Torque adjusting dial for operator convenience (for models BTW121SA and BTW151SA only)

### MAKSTAR®



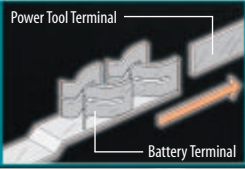
### MAKSTAR® SYSTEM

#### Battery & Charging System

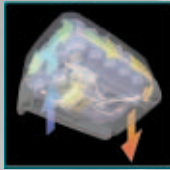
- New MAKSTAR® battery cell design for extreme power
- Forced Air Cooling System circulates continuous cooling air for maximum battery life
- Computerized Digital Communication System to determine the optimal path for the best charge

# MAKSTAR®

**"Secure-Slide" Connection**  
keeps battery locked in place

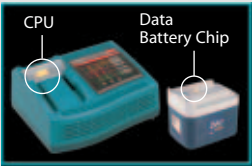


**Multi-Contact Terminals**  
ensure tight connection to the tool under extreme vibration

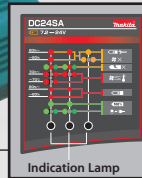


**Built-in Air Vents**  
receive cool air from the charger, further increasing the battery life

**Forced Air Cooling Fan**  
cools the battery by forcing cool air through the battery's built-in air vents to minimize charging time



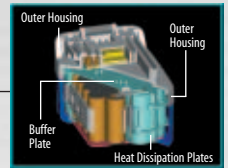
**Automatic Control Function and CPU**  
CPU gathers usage information from the battery's data chip. Then it charges the battery in the manner most suitable for longer life



**Digital Power Display**  
lets the user know the condition of the battery, as well as the current charge level of the battery (-80%, +80%, 100%)

**Data Memory Chip**  
memorizes battery usage history which is then transmitted to the MAKSTAR® charger's CPU to determine the optimal charging action

**Heat-Sinks**  
protect the battery cells by absorbing heat










**Shock Absorbing Construction**  
protects each battery cell while preventing dust and debris contamination

## MAKSTAR®

## BATTERIES & CHARGERS

	Voltage	Cell Type	Amp Hour (Ah)	Style	Battery	Part#	Models
<b>24, 14.4, 12 &amp; 9.6 Volt</b>	24	(Ni-MH)	3.3	MAKSTAR®	B2433	193740-8	BTW200SAE
	24	(Ni-MH)	2.0	MAKSTAR®	BH2420	193737-7	
	14.4	(Ni-MH)	3.3	MAKSTAR®	BH1433	193355-1	BTD150SAE, BTW150SAE, BTW151SA
	14.4	(Ni-MH)	2.0	MAKSTAR®	BH1420	193352-7	
	14.4	(Ni-MH)	2.7	MAKSTAR®	BH1427	193992-1	BFL300FZ, BFL400FZ, BTD150SAE, BTW150SAE, BTW151SA
	12	(Ni-MH)	3.3	MAKSTAR®	BH1233C	193931-1	BFL081FZ, BFL121FZ, BFL200FZ,
	12	(Ni-MH)	2.0	MAKSTAR®	BH1220C	193929-8	BFT081FZ, BFT123FZ, BTD120Z, BTW120SAE, BTW121SA
	9.6	(Ni-MH)	3.3	MAKSTAR®	BH9033A	193536-7	BFL080FZ, BFL120FZ, BFT040FZ,
	9.6	(Ni-MH)	2.0	MAKSTAR®	BH9020A	193531-7	BFT080FZ, BFT122FZ, BTD040Z, BTD042Z, BTD061SAG, BTD061Z, BTD062Z, BTW070Z, BTW072Z

	Cell Type	Amp Hour (Ah)	Style	Part#
<b>MAKSTAR® 24V Charger</b>	(Ni-MH)	1.3 - 3.3	MAKSTAR®**	DC24SA
Charges 24V Ni-MH removable slide style batteries 1.7Ah - 3.3Ah * Use interchangeable Battery Adapter 193205-0 to charge all Ni-MH & Ni-Cd 7.2V - 18V pod & stick style removable batteries				
<b>MAKSTAR® 14.4V Charger</b>	(Ni-MH)	1.3 - 3.3	MAKSTAR®**	DC14SA
Charges 9.6V - 14.4V Ni-MH removable slide style batteries 1.7Ah - 3.3Ah * Use interchangeable Battery Adapter 193205-0 to charge all Ni-MH & Ni-Cd 7.2V - 14.4V pod & stick style removable batteries				
<b>MAKSTAR® Refreshing Battery Adapter (ADP03)</b>	(Ni-MH)	1.7 - 3.3	MAKSTAR®**	193681-8
<ul style="list-style-type: none"> <li>• Conditions battery cells that have been inactive for extended life for MAKSTAR® batteries only</li> <li>• Refreshes batteries as fast as 40 minutes</li> <li>• Automatically detects battery that needs to be refreshed</li> </ul> * Use with charger DC24SA or DC14SA				
<b>MAKSTAR® Interchangeable Battery Adapter</b>	(Ni-MH) & Ni-Cd	1.3 - 3.0	Pod & Stick	193205-0
Charges all Ni-MH & Ni-Cd removable (1.3Ah - 3.0Ah) batteries 7.2V, 9.6V, 12V, 14.4V & 18V Use with charger DC24SA or DC14SA				

Description	Part#	Models	Description	Part#	Models	Description	Part#	Models
<b>Torque Adjusting Key</b> 	765024-0	6798FDZ	<b>Cordless Tool Impact Protectors</b> Resists impacts that can damage tool    	417476-8	BTD120Z, BTW120SAE, BTW121SA	<b>Two-Piece Impact Protector Sets*</b> Clear (A) 418745-0 Red (A) 418744-2 Blue (A) 418743-4 Yellow (A) 418691-7 Clear (B) 418748-4 Red (B) 418747-6 Blue (B) 418746-8 Yellow (B) 418692-5 Clear (A) 418745-0 Red (A) 418744-2 Blue (A) 418743-4 Yellow (A) 418691-7 Clear (B) 418751-5 Red (B) 418750-7 Blue (B) 418749-2 Yellow (B) 418693-3		
	765025-8	BFT040FZ, BFT080FZ, BFT122FZ, BFT123FZ, BFL080FZ, BFL081FZ, BFL120FZ, BFL121FZ, BFL200FZ, BFL300FZ, BFL400FZ		417349-5	BTD040Z, BTD042Z, BTD061SAG, BTD061Z, BTD062Z, BTW070Z & BTW072Z		BFL300FZ	
<b>Shoulder Strap</b> For convenient transporting of tools 	193122-4	BTD120Z, BTD121SA, BTD150SAE, BTD151SA, BTW120SAE, BTW150SAE		418066-0	BFL080FZ, BFL081FZ, BFL120FZ, BFL121FZ, BFL200FZ		BFL400FZ	
	<b>Paddle Switch Adapter</b> Converts trigger switch to paddle switch 	194008-5		BFL300FZ, BFL400FZ	418065-2		BFL080FZ, BFL081FZ, BFL120FZ, BFL121FZ, BFL200FZ	
				418064-4	BFL121FZ, BFL200FZ			
				418032-7				
				418425-8	BFT040FZ, BFT080FZ, BFT122FZ, BFT123FZ			
				418424-0				
				418423-2				

\*Set requires both (A) and (B)

## TORQUE CONVERSION CHART

[in.lbs.] → [N·m]

in.lbs.	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0	0.00	0.01	0.02	0.03	0.05	0.06	0.07	0.08	0.09	0.10
1	0.11	0.12	0.14	0.15	0.16	0.17	0.18	0.19	0.20	0.21
2	0.23	0.24	0.25	0.26	0.27	0.28	0.29	0.31	0.32	0.33
3	0.34	0.35	0.36	0.37	0.38	0.40	0.41	0.42	0.43	0.44
4	0.45	0.46	0.47	0.49	0.50	0.51	0.52	0.53	0.54	0.55
5	0.56	0.58	0.59	0.60	0.61	0.62	0.63	0.64	0.66	0.67
6	0.68	0.69	0.70	0.71	0.72	0.73	0.75	0.76	0.77	0.78
7	0.79	0.80	0.81	0.82	0.84	0.85	0.86	0.87	0.88	0.89
8	0.90	0.92	0.93	0.94	0.95	0.96	0.97	0.98	0.99	1.01
9	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.10	1.11	1.12

[N·m]

in.lbs.	0	1	2	3	4	5	6	7	8	9
10	1.1	1.2	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1
20	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.2	3.3
30	3.4	3.5	3.6	3.7	3.8	4.0	4.1	4.2	4.3	4.4
40	4.5	4.6	4.7	4.9	5.0	5.1	5.2	5.3	5.4	5.5
50	5.6	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.6	6.7
60	6.8	6.9	7.0	7.1	7.2	7.3	7.5	7.6	7.7	7.8
70	7.9	8.0	8.1	8.2	8.4	8.5	8.6	8.7	8.8	8.9
80	9.0	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	10.1
90	10.2	10.3	10.4	10.5	10.6	10.7	10.8	11.0	11.1	11.2

[N·m]

in.lbs.	0	10	20	30	40	50	60	70	80	90
100	11.3	12.4	13.6	14.7	15.8	16.9	18.1	19.2	20.3	21.5
200	22.6	23.7	24.9	26.0	27.1	28.2	29.4	30.5	31.6	32.8
300	33.9	35.0	36.2	37.3	38.4	39.5	40.7	41.8	42.9	44.1
400	45.2	46.3	47.5	48.6	49.7	50.8	52.0	53.1	54.2	55.4
500	56.5	57.6	58.8	59.9	61.0	62.1	63.3	64.4	65.5	66.7
600	67.8	68.9	70.1	71.2	72.3	73.4	74.6	75.7	76.8	78.0
700	79.1	80.2	81.4	82.5	83.6	84.7	85.9	87.0	88.1	89.3
800	90.4	91.5	92.6	93.8	94.9	96.0	97.2	98.3	99.4	100.6
900	101.7	102.8	103.9	105.1	106.2	107.3	108.5	109.6	110.7	111.9

[N·m]

in.lbs.	0	100	200	300	400	500	600	700	800	900
1,000	113	124	136	147	158	169	181	192	203	215
2,000	226	237	249	260	271	282	294	305	316	328
3,000	339	350	362	373	384	395	407	418	429	441
4,000	452	463	475	486	497	508	520	531	542	554
5,000	565	576	588	599	610	621	633	644	655	667
6,000	678	689	701	712	723	734	746	757	768	780
7,000	791	802	814	825	836	847	859	870	881	893
8,000	904	915	926	938	949	960	972	983	994	1,010
9,000	1,020	1,030	1,040	1,050	1,060	1,070	1,090	1,100	1,110	1,120

[N·m]

[N·m] → [in.lbs.]

N·m	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
0	0.00	0.89	1.77	2.66	3.54	4.43	5.31	6.20	7.08	7.97
1	8.85	9.74	10.6	11.5	12.4	13.3	14.2	15.0	15.9	16.8
2	17.7	18.6	19.5	20.4	21.2	22.1	23.0	23.9	24.8	25.7
3	26.6	27.4	28.3	29.2	30.1	31.0	31.9	32.8	33.6	34.5
4	35.4	36.3	37.2	38.1	39.0	39.8	40.7	41.6	42.5	43.4
5	44.3	45.1	46.0	46.9	47.8	48.7	49.6	50.5	51.3	52.2
6	53.1	54.0	54.9	55.8	56.7	57.5	58.4	59.3	60.2	61.1
7	62.0	62.9	63.7	64.6	65.5	66.4	67.3	68.2	69.0	69.9
8	70.8	71.7	72.6	73.5	74.4	75.2	76.1	77.0	77.9	78.8
9	79.7	80.6	81.4	82.3	83.2	84.1	85.0	85.9	86.8	87.6

[in.lbs.]

N·m	0	1	2	3	4	5	6	7	8	9
10	89	97	106	115	124	133	142	150	159	168
20	177	186	195	204	212	221	230	239	248	257
30	266	274	283	292	301	310	319	328	336	345
40	354	363	372	381	390	398	407	416	425	434
50	443	451	460	469	478	487	496	505	513	522
60	531	540	549	558	567	575	584	593	602	611
70	620	629	637	646	655	664	673	682	690	699
80	708	717	726	735	744	752	761	770	779	788
90	797	806	814	823	832	841	850	859	868	876

[in.lbs.]

N·m	0	10	20	30	40	50	60	70	80	90
100	885	974	1,060	1,150	1,240	1,330	1,420	1,510	1,590	1,680
200	1,770	1,860	1,950	2,040	2,130	2,210	2,300	2,390	2,480	2,570
300	2,660	2,740	2,830	2,920	3,010	3,100	3,190	3,280	3,360	3,450
400	3,540	3,630	3,720	3,810	3,900	3,980	4,070	4,160	4,250	4,340
500	4,430	4,520	4,600	4,690	4,780	4,870	4,960	5,050	5,130	5,220
600	5,310	5,400	5,490	5,580	5,670	5,750	5,840	5,930	6,020	6,110
700	6,200	6,290	6,370	6,460	6,550	6,640	6,730	6,820	6,910	6,990
800	7,080	7,170	7,260	7,350	7,440	7,520	7,610	7,700	7,790	7,880
900	7,970	8,060	8,140	8,230	8,320	8,410	8,500	8,590	8,680	8,760

[in.lbs.]

### Conversion Formulas

1 kgf = 2.205 lbs.      1 N = 0.101972 kg      1 m = 39.37 in.

A N·m = A x 8.8523 in.lb      →      1 N·m = 8.8523 in.lbs.

B in.lbs. = B x 0.1130 N·m      →      1 in.lbs. = 0.1130 N·m

C ft.lbs. =  $\frac{C \text{ in.lbs.}}{12}$       →      C in.lbs. = C ft.lbs. x 12



## MANUFACTURING & ASSEMBLY

### INDUSTRY MEASUREMENT STANDARDS

Makita's success and growth can be attributed to our total commitment to quality and our driven dedication to the industry to design high quality tools for professionals throughout the world. To remain the #1 Quality power tool leader we use the most rigorous testing to include electrical resistance, surge durability and mechanical efficiency. We utilize the most current and recommended testing equipment for our power tools to ensure precise torque accuracy and quality performance.

*Available at:*