



TORQUE CONTROLLED DRIVERS



PRODUCTION AIDS



AUTOMATION PRODUCTS



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- Torque controlled assembly can reduce returns, re-work, and scrap
- Torque controlled assembly can make your product a winner in today's quality-conscious marketplace
- Torque control from ASG is available from electric inline, portable, and manual drivers... all designed to eliminate over- or under-tightening of fasteners in your product

**Torque
Control?**

VS.

**Out-of-
Control?**



Torque Control Drivers

Torque Control Drivers



Electric Drivers vs Air Drivers

Electric drivers from ASG are:

- Cleaner
- Quieter
- Simpler
- More Flexible
- Safer

They're Cleaner.

ASG electric drivers are inherently cleaner than air drivers...there's no oily exhaust. In fact, ASG drivers are ideal for clean room assembly. When modified for clean room use (page 17), all BL, CL, SS, Alpha and SSCR tools are rated for Class 100 clean room environments.

They're Quieter.

ASG drivers typically operate at 55 decibels, quiet enough for "office type" assembly areas.

They're Simpler.

ASG electric drivers don't require all the support equipment of air drivers: compressors, plumbing, water separators, lubricators, filter/regulators, motor maintenance...all not needed!

They're Flexible.

When you need to move an assembly operation, ASG drivers simply unplug. No plumbing to fool with.

They're Safer.

ASG electric drivers use a very rapid, almost instantaneous braking system. This system prevents the overextension of the lower arm and wrist, the most common cause of cumulative trauma. To learn more about the prevention of cumulative trauma and how ASG drivers can help, call our Technical Sales Department at (888) 486-6163.

Which ASG Driver Series to Choose?

Brushless DC Electric Drivers: BL-Series

- Brushless motor with magnetic switches extends driver life
- Higher duty cycle results in minimal heat build-up
- For high production environments
- For vertical insertion of fasteners
- Also recommended wherever clean room assembly or static control is an issue
- Torques are adjusted externally. Tamper-proof torques are available



DC Electric Drivers: CL, SS, Alpha, SSCR & ESD-Series

- For production environments
- For vertical insertion of fasteners
- Also recommended wherever clean room assembly or static control is an issue
- Torques are adjusted externally. Tamper-proof torques are available
- Can be wired for forward or reverse torque control



Plug-In AC Electric Drivers: VZ-Series

- For production environments
- For vertical insertion of fasteners
- Plugs directly into 110VAC; no transformer needed
- Torques are adjusted externally by turning the torque nut. Tamper-proof torques are available
- Torque control in both forward and reverse



Manual Drivers: ASG-Series

- For lower volume assembly or where access is limited
- Two styles available: adjustable or pre-set torque





BL-Series: ASG's Best and Newest Drivers

- **Brushless:**
 - Eliminates carbon dust
 - Provides longer life
 - Cleaner operation
- All magnetic switches; low maintenance
- All metal gears
- Soft texture; comfort grip
- 6' detachable cord



BL-3000
Pictured

Small-Size – Inline

- 4 - 27 oz•in
- 4.0 mm drive
- Lever start

BL-3000

- Light torque, small screw applications
- #2 screws and smaller (2.3 mm)
- 4.0 mm drive model offers greatest flexibility for small fasteners or vacuum pick-up applications

All DC Drivers
Require a Power Pack.
See pages 20-24.

BL-3000 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†					
65503	BL-3000	4-27 oz•in	4.0 mm	1100	960	7.4"	1 1/8"	11.5	T-70 BL	64273

BRUSHLESS DC ELECTRIC DRIVERS

BL-5000

- Medium to light torque applications
- #1 to #4 screws (2.0 mm to 3.0 mm)
- 4.0 mm drive model offers greatest flexibility for small fasteners or vacuum pick-up applications
- Driver is switchable between lever start and push-to-start
- Oval shape for reduced fatigue
- Tamper-resistant torque cover available, see page 26 for part number

Medium-Size – Inline

- **2 - 11 lbf•in**
- **1/4" hex or 4.0 mm drive**
- **Lever start/Push-to-start**



BL-5000
Pictured

BL-5000 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†					
64271	BL-5000	2-11 lbf•in	4.0 mm	1000	680	8"	1 1/4"	12.7	T-70 BL	64273
64275	BL-5000	2-11 lbf•in	1/4" hex	1000	680	8"	1 1/4"	12.7	T-70 BL	64273

†At lower voltages, full performance of tool may not be achievable.

BL-7000

- Standard to medium torque applications
- #3 to 10 screws (2.6 mm to 5 mm)
- Driver is switchable between lever start and push-to-start
- Oval shape for reduced fatigue
- Tamper-resistant torque cover available, see page 26 for part number

Standard-Size – Inline

- **5 - 30 lbf•in**
- **1/4" hex or 5.0 mm drive**
- **Lever start/Push-to-start**



BL-7000
Pictured

BL-7000 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†					
65505	BL-7000	5-21 lbf•in	5.0 mm	1050	730	9.4"	1 1/2"	22.6	T-70 BL	64273
65504	BL-7000	5-21 lbf•in	1/4" hex	1050	730	9.4"	1 1/2"	22.6	T-70 BL	64273
65506	BL-7000HT	5-30 lbf•in	1/4" hex	740	500	9.4"	1 1/2"	22.6	T-70 BL	64273

**All DC Drivers
Require a Power Pack.
See pages 20-24.**

Small-Size – Inline

- 2.7 - 27 ozf•in
- 4.0 mm drive
- Lever start
- 4' detachable cord

CL-2000 & CL-3000

- Light torque, small screw applications
- #1 (2 mm) screws and smaller
- 4.0 mm drive offers greatest flexibility for small fasteners or vacuum pick-up applications
- Locking torque nut standard on CL-2000
- Tamper-resistant torque nut available for CL-3000, see page 26 for part number



CL-2000 Pictured



CL-3000 Pictured

All DC Drivers
Require a Power Pack.
See pages 20-24.

CL-2000 & CL-3000 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64107	CL-2000	2.7-27 ozf•in	4.0 mm	680	490	6 1/2"	1"	7.35	Gold	Brown	CLT-50	64163
64109	CL-3000	3-25 ozf•in	4.0 mm	1000	670	6 3/8"	1 1/8"	12.50	Yellow	Blue	CLT-50	64163

†At lower voltages, full performance of tool may not be achievable.

Push-to-Start adaptor kits for Model CL-3000, see page 26.

DC ELECTRIC DRIVERS

Medium-Size – Inline

CL-4000, A-4500 & A-5000

- Medium to light torque applications
- #0 to #4 screws (1.4 mm to 3.0 mm)
- Alpha-series (A- series) feature a rare earth magnet motor for more power
- 4.0 mm drive model offers greatest flexibility for small fasteners or vacuum pick-up applications
- Tamper-resistant torque nut available, see page 26 for part number

- **.5 - 11 lbf•in**
- **1/4" hex or 4.0 mm drive**
- **Lever start**
- **4' detachable cord**



A-5000
Pictured

**All DC Drivers
Require a Power Pack.
See pages 20-24.**

CL-4000, A-4500 & A-5000 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64110	CL-4000	.5-4.5 lbf•in	1/4" hex	1000	670	7 1/2"	1 1/8"	14	Blue	Red	CLT-50	64163
64111	CL-4000	.5-4.5 lbf•in	4.0 mm	1000	670	7 1/2"	1 1/8"	14	Blue	Red	CLT-50	64163
64112	A-4500	3.5-6.5 lbf•in	4.0 mm	1400*	1000*	7 3/4"	1 1/8"	16	White		CLT-50	64163
64113	A-4500	3.5-6.5 lbf•in	1/4" hex	1400*	1000*	7 3/4"	1 1/8"	16	White		CLT-50	64163
64281	A-5000	2.0-11 lbf•in	1/4" hex	970*	725*	7 3/4"	1 1/8"	16	Green		CLT-50	64163
64280	A-5000	2.0-11 lbf•in	4.0 mm	970*	725*	7 3/4"	1 1/8"	16	Green		CLT-50	64163

†At lower voltages, full performance of tool may not be achievable.

*Add approximately 100 RPM if using CLT-65 transformer.

Push-to-Start adaptor kits are available; see page 26.



CL-6000
CL-6500
CL-7000
A-6500
Pictured

Standard-Size Drivers – Inline

- 1.2 - 30 lbf•in
- 1/4" hex or 5.0 mm drive
- Lever or push-to-start
- 6' detachable cord

CL-6000, CL-6500, CL-7000 & A-6500

- Standard to medium torque applications
- #1 to #10 screws (2.0 mm to 5.0 mm)
- Alpha-series (A-series) feature a rare earth magnet motor for more power
- Tamper-resistant torque nut standard
- Low RPM models for low speed applications

All DC Drivers
Require a Power Pack.
See pages 20-24.

CL-6000, CL-6500, CL-7000 & A-6500 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64116	CL-6000	1.7-8.5 lbf•in	1/4" hex	790	500	8 1/2"	1 3/8"	21.5	Brown		CLT-50	64163
64106	CL-6000	1.7-8.5 lbf•in	5.0 mm	790	500	8 1/2"	1 3/8"	21.5	Brown		CLT-50	64163
64121	CL-6500	1.2-14 lbf•in	1/4" hex	910	600	9"	1 3/8"	23.5	White	Yellow	CLT-50	64163
64118	CL-6500	1.2-14 lbf•in	5.0 mm	910	600	9"	1 3/8"	23.5	White	Yellow	CLT-50	64163
64126	CL-7000	2.5-20 lbf•in	1/4" hex	750	500	10"	1 3/8"	27	Yellow	Purple	CLT-50	64163
64129	CL-7000HT	2.5-24 lbf•in	1/4" hex	550	330	10"	1 3/8"	27	Yellow	Purple	CLT-50	64163
64117	CL-7000	2.5-20 lbf•in	5.0 mm	750	500	10"	1 3/8"	27	Yellow	Purple	CLT-50	64163
64124	A-6500	4.5-16 lbf•in	1/4" hex	1500	1100	9"	1 3/8"	24	Yellow		CLT-65	64185
64284	A-6500HT	4.5-30 lbf•in	1/4" hex	690	500	9"	1 3/8"	24	Green		CLT-65	64185

Push-To-Start: CL-6000, CL-6500, CL-7000 & A-6500 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64200	CL-6000-PS	1.7-8.5 lbf•in	1/4" hex	790	500	8 1/2"	1 3/8"	23.5	Brown		CLT-50	64163
64120	CL-6500-PS	1.2-14 lbf•in	1/4" hex	910	600	9"	1 3/8"	23.5	White	Yellow	CLT-50	64163
64125	CL-7000-PS	2.5-20 lbf•in	1/4" hex	750	500	9"	1 3/8"	23.5	Yellow		CLT-50	64163
64119	A-6500-PS	4.5-16 lbf•in	1/4" hex	1500	1100	9"	1 3/8"	24	Yellow		CLT-65	64185

Low RPM: CL-6000, CL-6500 and CL-7000 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64257	CL-6000	1.7-8.5 lbf•in	1/4" hex	104	70	9 1/4"	1 3/8"	23.5	Brown		CLT-50	64163
64268	CL-6500	1.2-14 lbf•in	1/4" hex	116	75	9 3/4"	1 3/8"	23.5	White	Yellow	CLT-50	64163
64269	CL-7000	2.5-20 lbf•in	1/4" hex	96	60	10 1/2"	1 3/8"	23.5	Yellow		CLT-50	64163

Standard-Size Drivers – Pistol Grip

CL-6000-P, CL-6500-P, CL-7000-P & A-6500-P

- Standard to medium horizontal applications
- #1 to #8 screws (2.0 mm to 4.0 mm)
- Tamper-resistant torque nut standard

- **1.2 - 20 lbf•in**
- **1/4" hex drive**
- **Trigger start**
- **6' attached cord**



CL-7000-P Pictured

CL-6000-P, CL-6500-P, CL-7000-P & A-6500-P Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Height	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64108	CL-6000-P	1.7-8.5 lbf•in	1/4" hex	790	500	8"	5"	26.5	Brown		CLT-50	64163
64123	CL-6500-P	1.2-14 lbf•in	1/4" hex	910	600	8 1/2"	5"	28.0	White	Yellow	CLT-50	64163
64128	CL-7000-P	2.5-20 lbf•in	1/4" hex	750	500	9 1/2"	5"	32.0	Yellow	Purple	CLT-50	64163
64197	A-6500-P	4.3-16 lbf•in	1/4" hex	1700	1100	8 1/2"	5"	28.5	Yellow		CLT-50	64163

†At lower voltages, full performance of tool may not be achievable.

CL-9000

- High torque applications
- #8 to 1/4" screws (4.0 mm to 6.0 mm)
- Torque reaction arm assembly standard
- Tool body floats for reduced fatigue
- Locking torque nut standard
- Tool support stand not included with torque reaction arm assembly
- See page 70 for tool stands

Large-Size Drivers – Inline

- **10.5 - 69 lbf•in**
- **1/4" hex drive**
- **Push-to-start**
- **6' detachable cord**



CL-9000 pictured with standard torque reaction arm assembly

**All DC Drivers
Require a Power Pack.
See pages 20-24.**

Push-To-Start: CL-9000 Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64138	CL-9000-PS	10.5-42 lbf•in	1/4" hex	530	N/A	10"	2 1/25"	46	Gold		CLT-75	64186
64139	CL-9000-PS-HT	17-69 lbf•in	1/4" hex	350	N/A	10"	2 1/25"	46	Green		CLT-75	64186

†At lower voltages, full performance of tool may not be achievable.

DIRECT PLUG-IN DRIVERS



ACL-10 Pictured

Medium-Size Drivers – Inline

- 2 - 8 lbf•in
- 1/4" hex or 4.0 mm drive
- Lever or push-to-start
- 10' detachable power supply and cord

ACL-Series

- Medium torque applications
- #1 to #4 screws (2.0 mm to 3.0 mm)
- Direct plug-in requires no separate power supply



ACL Controller Pictured

ACL-Series Specifications

Part No.	Model No.	Torque	Drive Size	RPM	Length	Dia.	Weight Oz.
64221	ACL-10	2-8 lbf•in	1/4" hex	1500	8.5"	1.6" at grip	16
64227	ACL-10	2-8 lbf•in	4.0 mm	1500	8.5"	1.6" at grip	16

Torque and speed at 120VAC.

Push-To-Start: ACL-Series Specifications

Part No.	Model No.	Torque	Drive Size	RPM	Length	Dia.	Weight Oz.
64226	ACL-10-PS	2-8 lbf•in	4.0 mm	1500	8.5"	1.6" at grip	16

Torque and speed at 120VAC.

DIRECT PLUG-IN DRIVERS

Standard-Size Drivers – Inline

VZ-Series

- Standard to medium torque applications
- #4 to #10 screws (2.6 mm to 5.0 mm)
- Direct plug-in requires no separate power supply
- Anti-tampering torque cover available. See page 26 for part number.
- UL listed
- 5.0 mm drive available. Contact ASG for quote.



- **3.5 - 39 lbf•in**
- **1/4" hex drive**
- **Lever or push-to-start**
- **10' attached cord**



VZ-1820
VZ-3012
VZ-4506
Pictured

Torque Control Drivers

**Accessories Available.
See page 26.**

VZ-Series Specifications

Part No.	Model No.	Torque	Drive Size	RPM	Length	Dia.	Weight Oz.
64222	VZ-1820	3.5-16 lbf•in	1/4" hex	2000	11"	1.512" at grip	24
64224	VZ-3012	8-26 lbf•in	1/4" hex	1200	11"	1.512" at grip	24
64267	VZ-3012LT	3.5-16 lbf•in	1/4" hex	1200	11"	1.512" at grip	24
64238	VZ-4506	9-39 lbf•in	1/4" hex	600	11"	1.512" at grip	24

Torque and speed at 120VAC.

Push-To-Start: VZ-Series Specifications

Part No.	Model No.	Torque	Drive Size	RPM	Length	Dia.	Weight Oz.
64223	VZ-1820-PS	3.5-16 lbf•in	1/4" hex	2000	11"	1.512" at grip	24
64225	VZ-3012-PS	8-26 lbf•in	1/4" hex	1200	11"	1.512" at grip	24
64266	VZ-3012-LT-PS	3.5-16 lbf•in	1/4" hex	1200	11"	1.512" at grip	24
64239	VZ-4506-PS	9-39 lbf•in	1/4" hex	600	11"	1.512" at grip	24

Torque and speed at 120VAC.

Battery-Powered Drivers



F-9800 pictured

- 8 - 70 lbf•in
- 1/4" hex drive
- Trigger start
- Rapid re-charge
- Quick battery change

F-9000S, F-9000, F-9500, F-9800

- High to medium horizontal torque applications
- #6 to 1/4" screws (3.5 mm to 6.0 mm)
- Sets include battery and charger
- Removable nickel cadmium battery
- F-9500 & F-9800 feature more durable motor
- Locking torque nut standard
- Battery life approximately 350 rundowns



Accessories Available;
See page 27.

F-Series Specifications

Part No.	Model No.	Torque	Drive Size	Speed w/no load (RPM)	Gear Ratio	Wt. (lbs.)	Size	Motor	Power Source	Spare Battery Part No.
64155	F-9000S Set	8-26 lbf•in	1/4" hex	900	1:18	2.6	6.25x10x2.25	7.2 VDC	Rechargeable nickel-cadmium	64168
64152	F-9000 Set	8-42 lbf•in	1/4" hex	450	1:36	2.6	6.25x10x2.25	7.2 VDC	Rechargeable nickel-cadmium	64168
64154	F-9500 Set			650						
64151	F-9800 Set	10-70 lbf•in	1/4" hex	400	1:40	2.6	6.25x10x2.25	7.2 VDC	Rechargeable nickel-cadmium	64168

Sets include: battery charger, battery, bits and carrying case.

PORTABLE DRIVERS

Detached Battery-Powered Drivers

F-9001

- Detachable battery clips onto belt
- Lighter weight and shorter length
- Easier access to tight manufacturing applications
- Locking torque nut standard

- **8 - 42 lbf•in**
- **1/4" hex drive**
- **Trigger start**
- **Detachable battery**
- **Rapid recharge**



F-9001
Battery
Holder

F-9001
Pictured

F-9001 Specifications

Part No.	Model No.	Torque	Drive Size	Speed w/no load (RPM)	Gear Ratio	Wt. (lbs.)	Size	Motor	Power Source	Spare Battery Part No.
64160	F-9001 Set	8-42 lbf•in	1/4" hex	450	1:36	1.8	6.25x6.75x2.25	7.2 VDC	Rechargeable nickel-cadmium	64168

Sets include: battery charger, battery, bits and carrying case.

**Accessories Available;
See page 27.**

DL-Series

- Use for disassembly or non-critical applications
- Built-in ratchet allows operator override to remove stubborn screws
- Battery recharges in 1 to 1-1/2 hours
- Clutch slips at pre-set torque
- Final torque must be applied by operator

Power-Assisted Ratchet Drivers

- **3.5 - 21 lbf•in**
- **1/4" hex drive**
- **Trigger or button start**
- **Rapid re-charge**
- **Quick-change battery**
- **Slip clutch**



DL-10
Pictured



DL-20
Pictured

DL-Series Specifications

Part No.	Model No.	Torque	Drive Size	Ratchet Speed	Ratchet Mode	Safe Load Limit	Wt. (oz.)	Size	Motor	Power Source	Tool Cycles	Spare Battery Part No.
64157	DL-10 Set	3.5 lbf•in	1/4" hex	380	FWD/LOCK/REV	60	17	5.2" x 4.5" x 1"	3.6 VDC	Rechargeable nickel-cadmium	1000	64178
64176	DL-20 Set	3.9-21.7 lbf•in	1/4" hex	240	FWD/REV	100	32	7.5" x 7.7" x 1.8"	3.6 VDC		1000	64178

Sets include: battery, battery charger, bits and wrist strap.
DL-10 Set also includes ratchet arm.



SS-6500
Pictured

Shock-Absorbing Drivers

- 80% less impact
- Less torque reaction
- .26 - 17.5 lbf•in
- 1/4" hex or 4.0 mm drive
- Lever start
- Available in small, medium and standard size tools
- 6' detachable cord

SS-Series

- Use for sensitive assemblies such as hard drives, LCD's, high density boards
- #10 screws (5.0 mm) and smaller
- Full torque while tool is in reverse makes these tools ideal for rework applications
- Unique ergonomic clutch delivers less torque reaction to operator
- Tamper-resistant torque nut standard on Models SS-6500 & SS-7000; optional on SS-3000 & SS-4000 Models. See page 26 for torque-locking option.

SS-Series Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64285	SS-3000	.26-1.74 lbf•in	4.0 mm	1000	670	6 3/8"	1 1/8"	12.5	Yellow	Blue	CLT-50	64163
64287	SS-4000	.9-4.0 lbf•in	1/4" hex	1000	690	7 1/2"	1 1/8"	14	Blue	Red	CLT-50	64163
64286	SS-4000	.9-4.0 lbf•in	4.0 mm	1000	690	7 1/2"	1 1/8"	14	Blue	Red	CLT-50	64163
64134	SS-6500	2.2-11.0 lbf•in	1/4" hex	900	600	9"	1 3/8"	23.5	Yellow		CLT-50	64163
64136	SS-7000	2.6-17.5 lbf•in	1/4" hex	750	500	10"	1 3/8"	27	Purple		CLT-50	64163

†At lower voltages, full performance of tool may not be achievable.

ESD Safe Drivers

- Use ESD safe drivers for any static-sensitive application

BL-ESD-Series

- Combines features of BL-Series and ESD housings

SS-ESD-Series

- SS-ESD safe drivers are drivers with ESD safe housings
- Impregnated housings last for the life of the tool; unlike coatings
- Housing is conductive
- Surface resistivity is 10³ ohms

BL-ESD-Series Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†					
65500	BL-5000-ESD	2.0-11.0 lbf•in	4.0 mm	1000	680	8"	1 1/4"	12.7	T-70 BL*	64273
65501	BL-5000-ESD	2.0-11.0 lbf•in	1/4" hex	1000	680	8"	1 1/4"	12.7	T-70 BL	64273

*CLT-50 and T-70BL power packs have ground paths to electrical ground.

SS-ESD-Series Specifications

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64277	SS-3000-ESD	.26-1.74 lbf•in	4.0 mm	1000	670	6 3/8"	1 1/8"	12.5	Yellow	Blue	CLT-50*	64163
64278	SS-4000-ESD	.9-4.0 lbf•in	1/4" hex	1000	690	7 1/2"	1 1/8"	14	Blue	Red	CLT-50	64163
64279	SS-4000-ESD	.9-4.0 lbf•in	4.0 mm	1000	690	7 1/2"	1 1/8"	14	Blue	Red	CLT-50	64163
64288	SS-6500-ESD	2.2-11.0 lbf•in	1/4" hex	900	600	9"	1 3/8"	23.5	Yellow		CLT-50	64163
64289	SS-7000-ESD	2.6-17.5 lbf•in	1/4" hex	750	500	10"	1 3/8"	27	Purple		CLT-50	64163

†At lower voltages, full performance of tool may not be achievable.

SPECIAL APPLICATION DRIVERS

Torque Control Drivers

CR-Series

- Any low-voltage small, medium and standard size tool can be modified for use in Class 100 clean room use
- #10 screws (5.0 mm) and smaller
- Small and medium tools include 4' detachable cord
- Standard tool supplied with 6' detachable cord

Class 100 Clean Room Drivers

- 2.7 ozf•in - 30.0 lbf•in
- 1/4" hex or 4.0 mm drive
- Lever or push-to-start
- 6' detachable cord



CR-3000
Pictured

Most DC electric drivers may be modified for use in Class 100 clean room.
Call ASG for quote.

All DC Drivers
Require a Power Pack.
See pages 20-24.

SSCR-ESD-Series

- Class 100 clean room use
- 80% less impact
- Anti-static
- Standard CLT-50 power pack has ground path to electrical ground

ESD, Class 100 Clean Room Shock-Absorbing Drivers

- Combine all features of clean room drivers, shock-absorbing drivers & ESD safe drivers

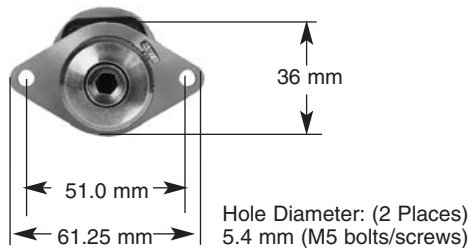


SSCR-6500-ESD
Pictured

SSCR-ESD-Series Specifications (Static Protection & Clean Room Rated)

Part No.	Model No.	Torque	Drive Size	Approx. RPM		Length	Dia.	Weight (oz.)	Spring Type		Recommended Power Pack	Part No.
				@ 30 VDC	@ 20 VDC†				Light	Heavy		
64291	SSCR-3000-ESD	.26-1.74 lbf•in	4.0 mm	1000	670	6 3/8"	1 1/8"	12 1/2	Yellow	Blue	CLT-50	64163
64292	SSCR-4000-ESD	.9-4.0 lbf•in	1/4" hex	1000	670	7 1/2"	1 1/8"	14	Blue	Red	CLT-50	64163
64293	SSCR-4000-ESD	.9-4.0 lbf•in	4.0 mm	1000	670	7 1/2"	1 1/8"	14	Blue	Red	CLT-50	64163
64294	SSCR-6500-ESD	2.2-11.0 lbf•in	1/4" hex	910	600	9"	1 3/8"	23 1/2	White	Yellow	CLT-50	64163
64295	SSCR-7000-ESD	2.6-17.5 lbf•in	1/4" hex	750	500	10"	1 3/8"	27	Yellow	Purple	CLT-50	64163

†At lower voltages, full performance of tool may not be achievable.



Drivers for Robotic or Machine Applications

- 4.0 ozf•in - 39.0 lbf•in
- 1/4" hex, 4.0 mm or 5.0 mm drive
- Remote start
- Mounting flange
- Remote reversible
- Speed selectable
- Heavy-duty series drivers

CLF & CL-Series

- Use with robot or build into custom machine
- Light to standard torque applications
- #0 to #10 screws
- Special power pack starts driver on signal from PLC; or machine controls
- Drivers include front mounting flange
- Reversing and two-speed selectable power packs available
- CL-800 series drivers for heavy duty applications

Most CL-Series, Alpha (A-Series) drivers, Clean Room, or SS-Series drivers can be adapted for use in robotic or machine operation. Contact ASG for quote.

All DC Drivers Require a Power Pack. See pages 20-24.

Select Robotic Driver Specifications (Contact ASG for any robotic application. Many additional models and specifications available.)

Part No.	Model No.	Drive Size	Torque	Approx. RPM @ 30 VDC	Weight (lbs.)	Length	Dia.	Recommended Power Pack	Part No.
64219	CLF-3000HH	4.0 mm	4.0-25 ozf•in	1000	0.91	6.375"	1.125"	CLT-AY61	64198
64115	CLF-4000XH	1/4" hex	0.6-4.8 lbf•in	1000	1.00	7.50"	1.125"	CLT-AY61	64198
64133	CLF-6000XH	1/4" hex	2.1- 6.5 lbf•in	800	1.34	9.84"	1.375"	CLT-AY61	64198
64135	CLF-6500XH	1/4" hex	1.3- 8.8 lbf•in	910	1.46	10.43"	1.375"	CLT-AY61	64198
64137	CLF-7000XH	1/4" hex	2.5-13.0 lbf•in	750	1.64	11.22"	1.375"	CLT-AY61	64198
64130	CL-816A	1/4" hex	14.5-21.0 lbf•in	500	2.68	9.85"	1.937"	CLT-AY81	64199
64131	CL-825A	1/4" hex	17.5-34.5 lbf•in	340	2.68	9.85"	1.937"	CLT-AY81	64199
64132	CL-850A	1/4" hex	20.5-39.0 lbf•in	640	3.43	9.65"	2.375"	CLT-AY81	64199

SPECIAL APPLICATION DRIVERS

SB-400C & SB-650C – Inline

- Ideal for installation of helically wound wire inserts, light tapping or gauging applications
- 10-32 to 0-80 insert capacity
- Tool reverses at preset torque
- Use with tap to chase threads after painting or coating parts; or for thread repair after removal of cross threaded fasteners.
- Chuck key included with tool

**All DC Drivers
Require a Power Pack.
See pages 20-24.**

Automatic Reversing Tools

- **.5 - 14 lbf•in**
- **#2 to 1/4" (4 mm to 6.5 mm) chuck**
- **Lever start**
- **6' detachable cord**
- **Auto reverse**



SB-650C
Pictured



SB-400C
Pictured

SB-900F – Battery Powered Pistol Grip

- Ideal for installation of ski bindings as well as all applications listed above
- Kit includes tool, battery and charger
- Removable nickel cadmium battery

- **8 - 42 lbf•in**
- **3/8" (10 mm) chuck**
- **Trigger start**
- **Rapid recharge**
- **Quick change battery**



SB-900F
Pictured

Mandrels for Helically Wound Inserts

Part No.	Thread Size	Part No.	Thread Size
64702	2-56	64710	10-24
64704	4-40	64730	10-32
64706	6-32	64714	1/4-20
64708	8-32	64734	1/4-28

NOTE: It is essential that holes be drilled to insert manufacturer specifications and that taps be checked regularly.

SB-Series Specifications

Part No.	Model No.	Torque	Approx. RPM		Tap Spring	Capacity	Length	Dia.	Chuck Weight	Capacity	Recommended Power Pack	Part No.
			@ 30 VDC	@ 20 VDC*								
64141	SB-400C	.5-4.5 lbf•in	1000	870	Red	4-40	8.5"	1 1/8"	15 oz.	5/32"	SBT-50	64166
64143	SB-650C	1.2-14 lbf•in	910	600	Yellow	10-32	11.5"	1 3/8"	24 oz.	1/4"	SBT-50	64166
64153	SB-900F	8-42 lbf•in	450		Yellow	3/8-24	12.0"	2 1/4"	2.6 lbs.	3/8"	Replacement Battery	64168

*At lower voltages, full performance of tool may not be available.

POWER PACKS FOR DRIVERS

Single Tool Control



T-70 BL Pictured



CLT-50 Pictured



- Operates BL-Series drivers
- “Switching” power supply
- Two-speed option

- UL Listed
- Operates most ASG electric drivers
- Two-speed option

- External signal option

- Variable speed option

T-70 BL

- Use with BL-Series. Not directly compatible with CL, A, and SS-series drivers
- “Switching” power supply means smaller physical size and more efficient operation
- Switchable output voltage provides two-speed option for drivers

CLT-50

- Use with CL-Series, SS-Series, A-4500 & A-5000 (Not for use with A-6500 & A-6500HT)
- Fused input voltage, circuit breaker protection on output voltage
- Switchable output voltage provides two-speed option on drivers

CLT-50AF

- Combines features of CLT-50 above with the option to provide an external signal that the driver has reached torque and shut-off
- Can be used with counters and PLC’s to monitor driver
- Not for use with ASG Process Monitor devices

VCLT-50

- Combines above features with variable output voltage
- The speed of drivers can be reduced to nearly 0* RPM
- Caution: Automatic shut-off of clutch is lost below 15 VDC

**NOTE: The torque limiting feature is no longer active when less than 16 volts are output by power pack. At low speeds “stalling” may occur. This can be remedied by slightly increasing the dial setting. At lower voltages, full performance of driver may not be achievable.*

Single Tool Control

CLT-65

- Must be used with A-6500 and the A-6500HT
- Can be used with CL or SS-Series drivers under high torque applications
- Fused input voltage, circuit breaker protected output voltage
- Switchable output voltage gives two-speed option on drivers

- Operates A-Series drivers
- Input/output protection
- Two-speed option



CLT-75 Pictured

CLT-75

The CLT-75 is used to power one CL-9000

- Operates CL-9000 driver

Single Tool Control Power Pack Specifications

Part No.	Model No.	Max.	Max. No. Drivers	Circuit Controller	Safety	Approx. Output	Input	Size	Weight
64163	CLT-50	2.5 amp	1-CL, SS or A-Series	Built-in	2A Fuse (Input) 4A Breaker (Output)	20-30 VDC	120 VAC	4"(W) x 7 1/2"(D) x 4"(H)	6 lb.
64170	CLT-50-AF	2.5 amp	1-CL, SS, A-4500 or A-5000	Built-in	2A Fuse (Input) 4A Breaker (Output)	20-30 VDC	120 VAC	4"(W) x 7 1/2"(D) x 4"(H)	6 lb.
64185	CLT-65	3.5 amp	1-A-6500 or 1-A-6500HT	Built-in	5A Fuse Internal (Input) 4A Breaker (Output)	20-30 VDC	120 VAC	7 1/8"(W) x 5 1/2"(D) x 5 1/4"(H)	11.2 lb.
64186	CLT-75	8.0 amp	1-CL-9000	Built-in	5A Fuse (Input) 8A Breaker (Output)	30 VDC	120 VAC	7 1/2"(W) x 8 3/4"(D) x 5 1/2"(H)	15.5 lb.
64188	VCLT-50	2.5 amp	1-CL, SS or A-Series	Built-in	2A Fuse (Input) 4A Breaker (Output)	20-30 VDC	120 VAC	4"(W) x 7 1/2"(D) x 4"(H)	6 lb.
64273	T-70 BL	4.5 amp	1-BL	N/A	3A Fuse (Input)	21-31 VDC	120 VAC	4"(W) x 5 1/2"(D) x 2"(H)	2.1 lb.



CLT-100
Pictured

Multiple Tool Control

- Operates two drivers
- Operates most ASG DC electric drivers
- Input/output protection
- Two-speed option

CLT-100

- Can operate two drivers
- Use with CL-Series, SS-Series, A-4500 & A-5000
- Not for use with A-6500 and A-6500HT
- Fused input voltage, circuit breaker protection on output voltage
- Switchable output voltage gives two-speed option on drivers
- Use where space is limited



MC-70L
Pictured

- Operates up to 20 drivers
- Operates all ASG DC electric drivers
- Input/output protection
- Two-speed option
- Uses individual control box

MC-70L

- Can operate up to 20 ASG DC electric drivers at the same time
- Fused input voltage, circuit breaker protection on output voltage
- Switchable output voltage gives two-speed option on drivers
- Use for dedicated line applications
- Requires one CB-105 per driver (See below)
- Accommodates up to 10 CB-105's as supplied. Order part #66035 to accommodate 10 additional CB-105's
- See chart shown on page 24

Multiple Tool Control Power Pack Specifications

Part No.	Model No.	Max.	Max. No. Drivers	Circuit Controller	Safety	Approx. Output	Input	Size	Weight
64174	CLT-100	3.5 amp	2-CL, SS or A-Series	Built-in	2A Fuse (Input) 4A Breaker (Output)	20-30 VDC	120 VAC	7 1/2"(W) x 5 1/2"(D) x 5"(H)	8.8 lb.
64164	MC-70L	15 amp	See chart on page 24.	CB-105	5A Fuse (Input) 10A Breaker (Output)	20-30 VDC	120 VAC	13"(W) x 9"(D) x 5 1/2"(H)	26.4 lb.

CB-105

- Can operate all ASG DC electric drivers
- Circuit breaker protection on output voltage
- Use with MC-70L
- Lets you custom design a power pack*

*To build your own power supply use the formula $A \times .6 \times N.T.$ to determine how many amps to supply.
 A = the amp draw of the tool (found in the specifications),
 N.T. = the number of tools you will be using.
 You may choose any voltage from 20 VDC to 30 VDC. You may then use the CB-105 Sub to control the tool. Caution! The control box will not function below 20 VDC and you will shorten the life of the driver by supplying more than 30 VDC.

CB-10-SS

- Can provide slow “ramp up” to full speed
- Use with CLT-type power pack to allow drivers to start at slower speeds in critical applications
- Note: Since electric drivers tend to run slower than pneumatic tools, this option is not used often

CB-Series Specifications

Part No.	Model No.	Lead Length**
64159	CB-105	6'
64156	CB-10-SS	6'

** Control box leads can be adapted for direct plug-in to the model, CLT-50.

Multiple Tool Control

- Individual control box
- Operates all ASG DC electric drivers
- Output protection

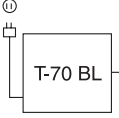

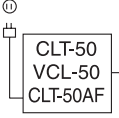




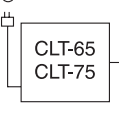





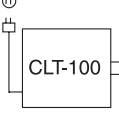
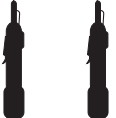


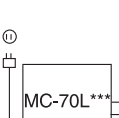
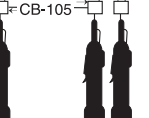
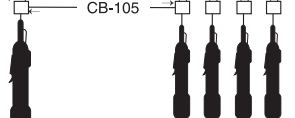
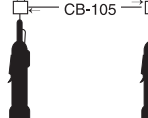
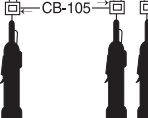
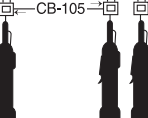


CB-105 Pictured

- Slow start option
- Variable setting

Single & Multiple Tool

Power Pack/Tool Combinations

	BL-3000, BL-5000 BL-7000	CL-2000 • CL-3000 • SS-3000 • CL-4000 • SS-4000 • A-4500 • A-5000	CL-6000 • CL-6500 • CL-7000 CL-7000HT • SS-6500 • SS-7000	A-6500 A-6500HT	CL-9000 (**)
 T-70 BL	 1 Tool	Not Recommended	Not Recommended	Not Recommended	Not Recommended
 CLT-50 VCL-50 CLT-50AF	(****)  1 Tool	 1 Tool	 1 Tool	(*)  1 Tool	Not Recommended
 CLT-65 CLT-75	 1 Tool	 1 Tool	 1 Tool	(*)  1 Tool	(**)  1 Tool
 CLT-100	 2 Tools	 2 Tools	 2 Tools	Not Recommended	Not Recommended
 MC-70L****	 10 Tools	 CL-2000 - Up to 20 Tools SS-4000 - Up to 20 Tools CL-3000 - Up to 20 Tools A-4500 - Up to 10 Tools CL-4000 - Up to 20 Tools A-5000 - Up to 10 Tools SS-3000 - Up to 20 Tools	 10 Tools	 5 Tools	 5 Tools

(*) CLT-50 may be used for the A-6500 if torque is to be less than 10 lbf · in.

(**) CL-9000 can only be used with CLT-75 or MC-70L and CB-105 combination.

(***) Cord length of MC-70L is 65.5' from power source.

(****) CLT-Series may be used for the BL-Series, however full performance may not be achieved.

CLT-AY-Series

- CLT-AY61 Series used with all CLF-Series drivers. Start driver with signal from PLC or machine controls
- CLT-AY61-2WV power pack allows programmable two-speed operation
- CLT-AY61-REV power pack allows programmable reverse
- CLT-AY81 Series used with all CL-800 series drivers. Start driver with signal from PLC or machine controls
- CLT-AY81-2WV power pack allows programmable two-speed
- CLT-AY81-REV power pack allows programmable reverse

Robotic or Machine Application Control

- Remote control of driver
- Completion signal provided
- Speed selectable
- Remote reversible
- Heavy duty power packs



CLT-AY-61 Pictured



CLT-AY-81 Pictured

CLT-AY Series Specifications

Part No.	Model No.	Description	Max.	Max. No. Drivers	Control Box	Safety	Output	Input	Size	Weight (lbs)
64198	CLT-AY61	Standard	6.3 amp	1	Built-in	2A Fuse (Input) 4A Breaker (Output)	17-30* VDC	120 VAC	7 1/2"(W) x 5 1/2"(D) x 5"(H)	8.8
64191	CLT-AY61-2WV	Two-Speed								
64190	CLT-AY61-REV	Reversible								
64199	CLT-AY81	Standard	10 amp	1	Built-in	5A Fuse (Input) 10A Breaker (Output)	17-30* VDC	120 VAC	13"(W) x 9"(D) x 5 1/2"(H)	26.4
64258	CLT-AY81-2WV	Two-Speed								
64259	CLT-AY81-REV	Reversible								

*2 speed units (Part Nos. 64191 & 64258) allow lower programmable voltage.

Automatically Reversing Tool Control

SBT-50

- Use with SB-Series drivers
- Fused input voltage, circuit breaker protection on output voltage
- Switchable output voltage gives two-speed options on drivers

- Reverses driver at preset torque
- Input/output protection
- Two-speed option



SBT-50 Pictured

SBT-50 Specifications

Part No.	Model No.	Max.	Max. No. Drivers	Control Box	Safety	Output	Input	Size	Weight
64166	SBT-50	2.5 amps	1-SB	Built-in	2A Fuse (Input) 4A Breaker (Output)	20-30 VDC	120 VAC	4" (W) x 7 1/2" (D) x 4" (H)	6 lb.

SB-05 Control Box

- Used with MC-70L power pack for multiple SB-Series driver applications

- For multiple SB-Series driver options

Part No.	Model No.
64148	SB-05

Electric Driver Accessories

DC & DIRECT PLUG-IN

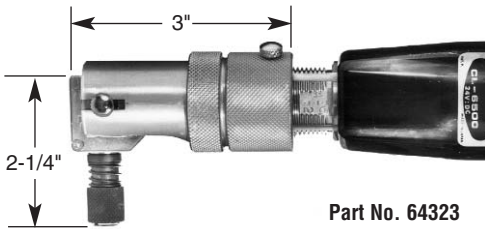


Part No. 64341
Pictured

Pistol Grip Attachment Kit

- Converts your inline driver or push-to-start tool to a pistol grip driver

Part No.	Use with	Length	Height	Weight (oz)
64341	CL-6000, CL-6500, SS-6500, CL-7000, SS-7000, A-6500, A-6500HT, CL-7000HT	7 1/2"	5 1/2"	4
64243	VZ Series	6"	6"	8
65508	BL-7000	6"	6"	8



Part No. 64323
Pictured

Right Angle Drive Kit

- For restricted access locations
- Easily mounts onto nose of driver
- Used on 1/4" hex drive models

Part No.	Use with	Maximum Torque
64323*	CL-6000, CL-6500, SS-6500, CL-7000, SS-7000, A-6500, A-6500HT, CL-7000HT	15 lbf•in
64320	VZ-Series	27 lbf•in

*Drivers with M 24x1.5 torque adjustment bolt thread



Part No. 64244
Pictured



Typical CL-Series
Locking Torque Nut
Pictured

Torque Locking Options

Part No.	Description	Use with
64220	Tamper-resistant nut	CL-3000, SS-3000, CL-4000, SS-4000, A-4500 & A-5000
64233	Tamper-resistant nut	CL-6000, SS-6500, CL-6500, SS-7000, CL-7000 & CL-7000HT
64244	Torque cover & flange	VZ-Series
64240	Torque cover without flange	VZ-Series
64900	Lock Set – set screw & wrench	CL-6000, SS-6500, CL-6500, SS-7000, CL-7000 & CL-7000HT
64402	Tamper-resistant torque cover	BL-5000
64404	Tamper-resistant torque cover	BL-7000



Push-to-Start
Adaptor kit installed
on CL-4000

Push-To-Start Adaptor Kit

- Converts your standard inline driver to push-to-start convenience

Part No.	Use with
64342	CL-4000, SS-4000, A-4500 and A-5000
64343	CL-3000, SS-3000

DC & DIRECT PLUG-IN, PORTABLE

Part No.	Use with
64245	VZ-Series

Flared Front Cover-Ring

- Helps user increase downward pressure without slippage



Part No.	Use with
64247	VZ-Series / Lever Start
64248	VZ-Series / Push-to-Start

Anti-Torque Reaction Assembly

- Absorbs torque reaction force to lighten operator fatigue
- Requires tool support stand and balancer (not included with torque reaction arm assembly), see page 67.



Part No. 64247
Pictured

Part No.	Use with
64249	VZ-Series

Cushion Grip (not shown)

- Slips on for soft gripping surface

NOTE: Only one VZ accessory can be used at one time.

ACCESSORIES FOR PORTABLE DRIVERS

- Drill chucks allow use of tooling not available with standard 1/4" hex drive.
Examples: drill bit, tap, hex bits, bristol bits, odd size hex keys.



F-Series Chuck
Pictured

F-Series Accessories

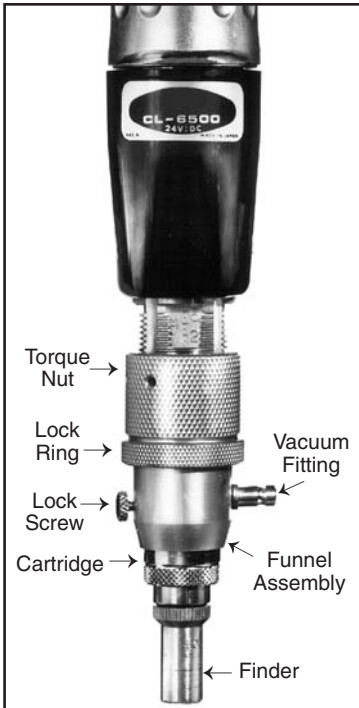
Part No.	Item	Description
64332	F-Series Drill Chuck	1/4" capacity (with key)
64167	Battery Charger	FCE-72N (all except F-9900)
64168	Battery	FB-72 (all except F-9900)
64330	Belt Holster	Fits all F-Series

DL-Series Accessories

Part No.	Item	Model No.	Input	Charge Time
64178	Battery	DLB-1200	120 VAC	
64179	Battery Charger	DLC-36		1 hour



F-Series
Belt Holster



Complete vacuum pick-up kit and finder mounted on CL-series driver.

Vacuum Adaptor Kit

- Mounts easily to most BL, CL, SS, Alpha & VZ-Series tools
- Allows pick up of non-ferrous screws
- Increases productivity

Vacuum Adaptor Kits

Part No.	For Use with Models
65502	BL-5000 (4.0 mm model only)
65507	For use with BL-7000
64314	CL-2000
64317	ACL-10
64319	CL-3000, SS-3000, CL-4000, SS-4000, A-4500, A-5000
64322	CL-6000, CL-6500, CL-7000, SS-6500, SS-7000, A-6500, A-6500HT, CL-7000HT with M 24x1.5 Torque Adjustment Bolt Thread
64246	VZ-1820, VZ-3012, VZ-4506
64318	SS-3000-ESD, SS-4000-ESD
64333	SS-6500-ESD, SS-7000-ESD

Kit includes: Hose and all items pictured, except for finder. Order finders and bits separately.

Finders

- Many pre-bored finders for common screw sizes available
(Please contact ASG for assistance)

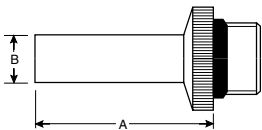
Custom Finders

- Designed for non-standard applications
(Please contact ASG for assistance)

Blank Finders

- For do-it-yourself machining to fit your screw sizes

Blank Finders



Part No.	Length A		Diameter B		Material	Used With
64324*	13 mm	.47"	8 mm	.31"	Brass	CL-2000 BL-3000 CL-3000 SS-3000
64344**	33 mm	1.29"	8 mm	.31"	Brass	CL-4000 SS-4000
64348**	31 mm	1.29"	8 mm	.31"	Stainless	BL-5000 (4.0mm) A-4500 A-5000
64325***	25 mm	.98"	8 mm	.25"	Brass	CL-6000 CL-6500 CL-7000 CL-7000HT SS-7000 A-6500 A-6500HT SS-6500 VZ Series
64326***	25 mm	.98"	14 mm	.39"	Brass	
64345	25 mm	.98"	8 mm	.25"	Plastic	
64346****	45 mm	1.77"	14 mm	.59"	Brass	
64347	25 mm	.98"	14 mm	.39"	Plastic	
64349****	45 mm	1.77"	14 mm	.59"	Stainless	

*Use with 60 mm length bits **Use with 80mm length bits ***Use with 2-3/4" length bits ****Use with 3-1/2" length bits
BL-5000 use with 40 mm bit lengths

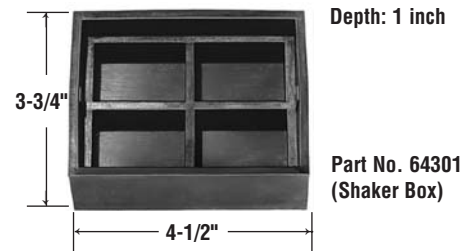
VACUUM PICK-UP

Shaker Boxes and Grid Plates

- Dump in screws, shake; fasteners orient themselves “heads up”
- Made of hard rubber
- Requires grid plate specific to screw size

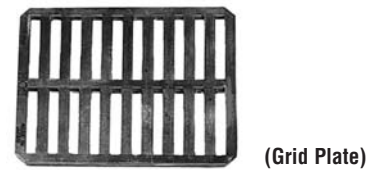
Shaker Box

Part No.	Dimensions
64301	3 3/4" x 4 1/2" x 1"



Grid Plates

Part No.	Screw Size		
	Metric	Inch	Fastener Size
64302	1.2 mm	.047"	00
	1.4 mm	.055"	00
64303	1.7 mm	.067"	0
64304	2.0 mm	.078"	1
64299	2.3 mm	.090"	2
64305	2.6 mm	.102"	3
64306	3.0 mm	.118"	4
64307	4.0 mm	.157"	6



Contact ASG's Technical Sales Department for additional information.

Vacuum Pumps

- Operates up to two vacuum drivers from a single pump

Vacuum Pump

Part No.	Description
64316	110V



Part No. 64316
(Vacuum Pump)

Electric Driver Accessories

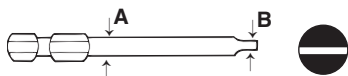
BITS, CHUCKS & ADAPTORS

1/4" Hex Drive Bits

ASG normally stocks bits to fit the following screw head styles:



For other styles, consult ASG's Technical Sales Department.



Slotted Head Screw Bits

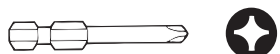
Screw Size	1 15/16" Length	2 3/4" Length*	3 1/2" Length	6" Length	Dimensions A**	B
1F 2R	64526	64527	64529	64532	.122	.026
2F 3R	64533	64534	64536	N/A	.134	.028
3F 4R	64540	64541	64543	N/A	.154	.034
4F 5R	64547	64548	64550	N/A	.187	.036
5F 6R	64554	64555	64557	64560	.215	.038
6F 8R	N/A	N/A	N/A	N/A	.241	.040
8F 10R	64568	64569	64571	64574	.275	.042
10F 12R	64575	64576	64578	64581	.312	.046
12F 14R	64582	64583	64585	N/A	.360	.050



Bit with Finder

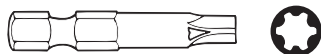
Insert Bit 1" Length	Bit with Finder
N/A	N/A
N/A	N/A
64635	64770
N/A	64771
64636	N/A
N/A	64772
64638	64773
N/A	64774
64639	64775

**Not applicable to insert bits and finders.



Phillips Head Screw Bits

Point Size	Part No. 1 15/16" Lgth.	Part No.* 2 3/4" Lgth.	Part No.* 3" Lgth.	Part No. 3 1/2" Lgth.	Part No.* 3 3/4" Lgth.	Part No. 6" Lgth.	Insert Bit 1" Lgth.
00	64512	N/A	N/A	N/A	N/A	N/A	N/A
0	64501	64504	N/A	N/A	N/A	64506	64630
1	64502	64503	64470	64505	64473	64507	64631
2	64508	64509	64472	64511	64474	64513	64632
3	64514	64515	N/A	64517	N/A	64519	64633



TORX® Screw Bits

Point Size	Part No. 1 15/16" Lgth.	Part No.* 2 3/4" Lgth.	Part No. 6" Lgth.	Insert Bit 1" Lgth.
T-1	N/A	N/A	N/A	64974
T-2	N/A	N/A	N/A	64976
T-3	64992	N/A	N/A	64977
T-4	64994	N/A	N/A	64978
T-5	64979	64973	N/A	64982
T-6	64980	N/A	N/A	64983
T-7	64981	64975	N/A	64984
T-8	64937	64946	64955	64986
T-9	64938	64947	N/A	64987
T-10	64939	64948	64956	64988
T-15	64940	64949	64957	64989
T-20	64941	64950	64958	N/A
T-25	64942	64951	64959	N/A
T-27	64943	64952	64960	N/A
T-30	64944	64953	64961	N/A
T-40	64945	64954	64962	N/A

TORXALIGN® or TORXWEDGE®

The wedge design of these bits allows pick up of non-ferrous screws.

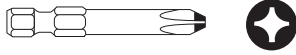
Point Size	Part No. 1 15/16" Lgth.
T-6W	64963
T-7W	64964
T-8W	64965
T-9W	64966
T-10W	64967
T-15W	64968
T-20W	64969
T-25W	64970
T-27W	64971
T-30W	64972

TORX and TORXALIGN are registered trademarks of Camcar Division of Textron.

*Use bits in shaded areas when using vacuum pick-ups.

BITS, CHUCKS & ADAPTORS

1/4" Hex Drive Bits



ACR Phillips® Anti-Camout Recess Bits

Point Size	Part No. 1 15/16" Lgth.	Part No.* 2 3/4" Lgth.	Part No. 3 1/2" Lgth.	Insert Bit 1" Lgth.
1	64495	N/A	N/A	64494
2	64497	64498	64500	64496
3	64499	N/A	N/A	N/A

Please Note: The bits listed above have the ACR ribs for BOTH insertion and removal.

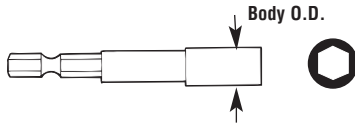
ACR is a registered trademark of the Phillips Screw Co.



PoziDrive® Screw Bits

Point Size	Part No. 1 15/16" Lgth.	Part No.* 2 3/4" Lgth.	Part No. 6" Lgth.
1	64485	64488	64491
2	64486	64489	64492
3	64487	64490	64493

PoziDrive is a registered trademark of The Phillips Screw Co.



Hex Head Screw & Nut Bits

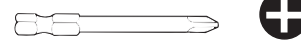
1/4" Hex Drive Nut Setter Bits 2 9/16" Length			
Internal Hex	Body O.D.	Non-Magnetic	Magnetic
3/16"	3/8"	64910	64911
1/4"	7/16"	64916	64917
5/16"	1/2"	64922	64923
11/32"	9/16"	N/A	64926
3/8"	9/16"	N/A	64929
7/16"	5/8"	64934	64935
5 mm	9.6 mm	64616	64618
5.5 mm	9.6 mm	64617	64619
6 mm	11.2 mm	64620	64622
7 mm	11.2 mm	64623	64624
8 mm	12.0 mm	64625	N/A

Please Note!

If a 1/4" hex bit will not lock properly in an ASG assembly tool, grind some material from the rear of the bit as shown.



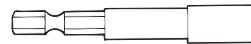
*Use bits in shaded areas when using vacuum pick-ups.



Frearson Screw Bits

Point Size	Part No. 1 15/16" Lgth.	Part No.* 2 3/4" Lgth.	Part No. 6" Lgth.
1, 2 & 3	64520	64521	64522

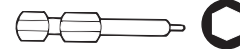
Note: A Frearson bit will fit any Frearson screw.



Bit Holder for Insert Bits

Part No.	Length	
64611	2 7/8"	Magnetic
64612	6"	Magnetic
64608	8"	Magnetic
64610	10"	Magnetic
64621	2 3/8"	Non-Magnetic

For all drivers with 1/4" hex drive.



Socket Head Screw Bits

Overall Length 1 15/16"				Insert Bit 1" Lgth.
Hex Size	Cap Screw	Set Screw	Part No.	
.050	0	4	N/A	64649
1/16"	1	5-6	64589	64650
5/64"	2-3	8	64590	64651
3/32"	4-5	10-13	64591	64652
7/64"	6	N/A	64592	64653
1/8"	N/A	1/4	64593	64654
9/64"	8	N/A	64594	64655
5/32"	10	5/16	64595	64656
3/16"	1/4	3/8	64596	64657
7/32"	N/A	7/16	64597	64658
1/4"	5/16	1/2	64598	64659
1.5 mm	M1.6, M 2.0, M3	M3	64565	NA
2.0 mm	M2.5	M4	N/A	64579
2.5 mm	M3	M5	64567	64580
3 mm	M4	M6	64570	64584
4 mm	M5	M8	64572	64586
5 mm	M6	M10	64573	64587
6 mm	M8	M12, M14	64577	64588

Electric Driver Accessories

BITS, CHUCKS & ADAPTORS

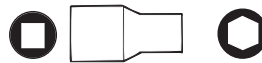
1/4" Hex Drive Bits



BallDriver™ Bits for Socket Head Screws

Hex Size	Screw Cap	Screw Set	Power Bit 3" Lgth.	Insert Bit 1" Lgth.
5/64"	2-3	8	64691	64681
3/32"	4-5	10-13	64692	64682
7/64"	6	N/A	64693	64683
1/8"	N/A	1/4	64694	64684
9/64"	8	N/A	64695	64685
5/32"	10	5/16	64696	64686
3/16"	1/4	3/8	64697	64687
7/32"	N/A	7/16	64698	64688
1/4"	5/16	1/2	64699	64689

BallDriver is a trademark of Bondhus Corporation.

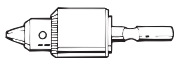


Sockets 1/4" Sq. Dr. 6 Point

Hex	Part No.	Hex	Part No.
1/8"	64670	9/32"	64675
5/32"	64671	5/16"	64676
3/16"	64672	11/32"	64677
7/32"	64673	3/8"	64678
1/4"	64674	7/16"	64680

3.5 mm	64660	6 mm	64665
4 mm	64661	7 mm	64666
4.5 mm	64662	8 mm	64667
5 mm	64663	9 mm	64668
5.5 mm	64666	10 mm	64669

For all drivers with 1/4" square drive.



Drill Chuck 1/4" Hex

	Part No.
Chuck	64331
Key	64336

For all drivers with 1/4" hex drive.



Special Bits for Screw Feeders for SAS & NSB-Series

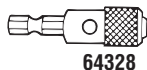
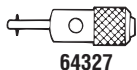
Bit Part No.	Point Style	Point Size	Bit Length	Point Dia.	For Use With Screwfeeder Model Nos.
65240	JCIS	0	3"	1.4 mm	SAS-514, SAS-517, NSB-14, NSB-17
65238	JCIS	0	2"	2.0 mm	SAS-520, SAS-523, NSB-20, NSB-23
65241	JCIS	0	3"	2.0 mm	SAS-520, SAS-523, NSB-20, NSB-23
65242	JIS	1	3"	2.3 mm	SAS-523, SAS-526, SAS-530, SAS-535, NSB-23, NSB-26, NSB-30
65243	JIS	1	3"	3.2mm	SAS-530, SAS-535, SAS-540, SAS-550, SAS-560, NSB-30
65244	JIS	2	3"	3.2mm	SAS-530, SAS-535, SAS-540, SAS-550, SAS-560, NSB-30



Adaptor for 1/4" Sockets

Adapt From	Length	Part No.
Hex power bit	2"	64602
Hex insert bit	1"	64357

For all drivers with 1/4" hex drive.



Hex & Millimeter Adaptors

Part No.	Use On Drive Size	Adapts to Drive Size
64328	1/4" Hex	4.0 mm
64327	4.0 mm	1/4" Hex
64340	1/4" Hex	5.0 mm
64339	5.0 mm	1/4" Hex

Bit Magnetizers



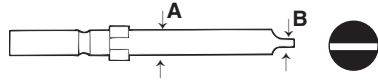
Part No. 65230



Part No. 65235

BITS, CHUCKS & ADAPTORS

4.0 & 5.0 mm Drive Bits



Slotted Head Screw Bits

Part No. 40 mm Lgth.	Part No. 60 mm Lgth.	Part No. 80 mm Lgth.	mm Dimensions		Inch Dimensions	
			A	B	A	B
N/A	64434	64460	1.1	.28	.043	.011
N/A	64435	64461	1.3	.28	.051	.011
N/A	64436	64462	1.5	.3	.058	.011
N/A	64437	64463	1.7	.3	.066	.011
N/A	64438	64464	1.8	.4	.070	.015
64441	64442	64465	2.0	.4	.079	.015
N/A	64443	64466	2.3	.4	.090	.015
64445	64446	64467	2.5	.4	.098	.015
N/A	64447	64468	2.8	.4	.110	.015
64449	64450	64469	3.0	.4	.118	.015
64453	64454	64455	4.0	.6	.157	.024



Metric Socket Head Screw Bits

Part No.	Hex Size	Length
64481	1.27 mm	60 mm
64482	1.5 mm	60 mm
64483	2.0 mm	60 mm
64484	2.5 mm	60 mm



TORX® Head Screw Bits

Point Size	Part No. 40mm Lgth.	Part No. 60mm Lgth. Straight Shaft	Part No. 60mm Lgth. Stepped Shaft
T-5	64820	64821	N/A
T-6	64822	64824	N/A
T-7	N/A	64826	64825
T-8	N/A	64827	N/A
T-10	N/A	64828	N/A
T-15	N/A	64829	N/A



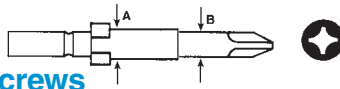
4.0 mm "Y" Bit

Part No.	Description
64830	#1 x 60 mm



JIS (Japanese Industrial Standards)

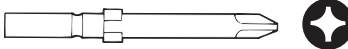
4.0 mm Drive Bits for Phillips Head Screws



Point Style	Point Size	Point Diameter		Part No. 40 mm Lgth.	Part No. 60 mm Lgth.	Part No. 80 mm Lgth.	Part No. 100 mm Lgth.	Part No. 120 mm Lgth.	Part No. 150 mm Lgth.		
		MM Dimen. A	Inch Dimen. B								
JCIS	00	4.0	1.5	.157	.058	64411	64412	64413	N/A	N/A	N/A
JCIS	00	4.0	2.0	.157	.079	N/A	N/A	N/A	64414	64415	N/A
JCIS	0	4.0	2.0	.157	.079	64416	64417	64418	64419	N/A	N/A
JCIS	0	4.0	2.5	.157	.098	64421	N/A	N/A	N/A	64420	N/A
JIS	1	4.0	4.0	.157	.157	64422	64423	64424	64425	64426	64427
JIS	2	4.0	4.0	.157	.157	64228	64229	64430	64431	64432	64433

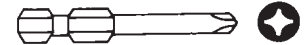
JCIS (Japanese Camera Industrial Standards)

5.0 mm Drive Bits for Phillips Head Screws



Point Style	Point Size	Point Diameter		Part No. 40 mm Lgth.	Part No. 60 mm Lgth.	Part No. 80 mm Lgth.	Part No. 100 mm Lgth.	Part No. 120 mm Lgth.		
		MM Dimen. A	Inch Dimen. B							
JCIS	0	5.0	2.5	.197	.098	N/A	64800	64801	64802	N/A
JIS	1	5.0	5.0	.197	.197	64803	64804	64805	64806	N/A
JIS	2	5.0	5.0	.197	.197	64807	64808	64805	64810	64816
JIS	3	5.0	7.0	.197	.276	N/A	64811	64812	64813	N/A

1/4" Hex Drive Phillips Head Screw Bits



Point Style	Point Size	Part No. 1 15/16" Lgth.	Part No. 2 3/4" Lgth.	Part No. 3 3" Lgth.	Part No. 4 3 3/4" Lgth.
JCIS	00	64512	N/A	N/A	N/A
JCIS	0	64501	N/A	N/A	N/A
JIS	1	64502	64503	64470	64473
JIS	2	64508	N/A	64472	64474

Manual screwdriver handles are available for use with 4.0 mm & 5.0 mm bits.

Part No. 64400: Wooden handle for 4.0 mm bit.

Part No. 64401: Wooden handle for 5.0 mm bit.

Please Note:

4.0 mm drive bits will also fit the following tools: DELVO MOD ES20G, ES30B & ES40T (sold by Ingersoll Rand); DELVO MOD ESD-20, ESD-25, 801, DLV6320, DLV6330 & DLV7320. Bits supplied with these tools are illustrated below:



ASG-Series Manual Drivers

- Adjustable and pre-set models
- 1/4" hex drives
- Cam-over torque clutch stops driver at desired torque
- Advanced ergonomically designed trilobular aluminum body
- Automatic lock in counter-clockwise direction
- Accuracy +/- 6% clockwise direction



Adjustable Drivers

- Ideal for applications that require more than one torque value
- Operator “dials in” torques from 20 ozf•in to 40 lbf•in
- Easy to read window scale
- Lightweight ease-of-use

ASG-A Series

- Factory calibrated at no charge to meet or exceed the accuracy and repeatability requirements of ISO 6789 and ASME-B107M
- Recalibration available at ASG
- Self-calibration with ASG torque testers. See pages 40-45
- Automatically resets for next fastener when torque is reached

ASG-A Series Specifications

Part No.	Model	Torque Range	Size (Width x Length)	Weight
65101	ASG-A6	20-100 ozf•in	1.1" x 5.5"	7 oz.
65102	ASG-A15	3-15 lbf•in	1.1" x 6.3"	8 oz.
65103	ASG-A40	5-40 lbf•in	1.2" x 6.8"	9.6 oz.

ASG-P Series

- Factory calibrated at no charge to meet or exceed the accuracy and repeatability requirements of ISO 6789 and ASME-B107M
- Recalibration available at ASG
- Self-calibration with ASG torque testers. See pages 42-47
- Four torque ranges available

Pre-Set Drivers

- Torque is pre-set from **6 ozf•in to 40 lbf•in**
- Tamper resistant design
- Rugged, light weight construction
– Built to last



ASG-P Series Specifications

Part No.	Model	Torque Range	Size (Width x Length)	Weight
65104	ASG-P2	6-32 ozf•in	1.1" x 4.5"	5.5 oz.
65105	ASG-P6	10-100 ozf•in	1.1" x 5.6"	7.4 oz.
65106	ASG-P15	1.5-15 lbf•in	1.1" x 5.6"	7.4 oz.
65107	ASG-P40	4.0-40 lbf•in	1.2" x 6.0"	9.6 oz.

See our website, www.asg-jergens.com, for a complete selection of Precision Miniature Bits for Manual Drivers

Torque Wrenches

T-Series

- Two models available
- Accuracy ±4% in the direction of calibration, from 20-100% of full scale

- Audible click
- Uses universal round shank heads
- Can be calibrated in English or Metric settings



T-Series pictured with open end attachment head (sold separately).

T-Series Specifications

Part No.	Model No.	Torque Range	Size (Diameter x Length)
65120	5T	13-60 lbf•in	5/8" x 5"
65122	10T	36-108 lbf•in	7/8" x 5"

Inter-changeable Heads: ratchethead, box-end or open-end driver. Visit ASG's website at www.asg-jergens.com for selection.



SECTION TWO PROCESS VERIFICATION EQUIPMENT

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- Video Microscope Inspection Systems50-51



Why Everyone Needs an Error-Proofer

In today's assembly environment, an Error-Proofing/Controller device for controlling and monitoring the insertion of threaded fasteners is critical!

Stop shipping your assembly errors by eliminating your fastener mistakes with the use of one of ASG's Error-Proofers and/or Controllers. ASG's complete product line of Error-Proofers/Controllers includes the newest Smart TorqTM II Controller which provides inexpensive precise torque and error-proofing capability. Error-proofing that will identify and reject missing fasteners, stripped threads, cross-threading and changes in component parts or operator error.

By identifying errors and eliminating defective parts as they happen:

- You save time and money by eliminating costly re-work and production delays!
- Guarantee a reliable finished product!
- Provide 100% Quality assurance to your customer!

With the growth of ISO, and other organizations for standardization over the last decade, the need for Error-Proofing and Process Control is essentially required for any assembly application. ASG's TS-III Assembly Process Monitor and Error-Proofing System monitors every fastener inserted into an assembly.



Smart Torq II Controller and Error-Proofer

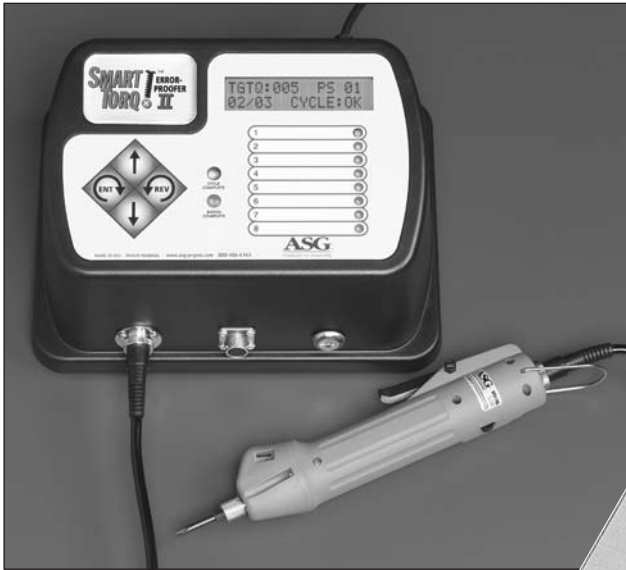
Process Verification



No Assembly GremlinsTM Allowed!

Process Controllers

THE SMART TORQ™ II DC BRUSHLESS DRIVER CONTROLLER & ERROR-PROOFER



Smart Torq II DC Brushless Driver and Controller Pictured



Process Verification

Smart Torq II Controller

- Provides process control & error-proofing
- Monitors & controls the complete assembly process
- Learns up to eight different jobs for torque control and error-proofing
- Compatible with PLC's or other process control devices
- Controller for ASG's DC Brushless BL-Series Drivers
- Lockable key switch
- Accept/Reject lights
- Audible Reject Alarm
- Fault displayed on screen
- Eight Programmable parameters
- Relay I/O
- RS-232 data communications

Smart Torq II Specifications

Part No.	Model	For Use With:	Torque Range*
66525	Electric Smart Torq II Error-Proof System-3000	Supplied with modified 1100 RPM BL-3000 driver	2 to 27 ozf•in
66526	Electric Smart Torq II Error-Proof Controller	ASG-modified BL series electric drivers	NA
66527	Electric Smart Torq II Error-Proof System-5000	Supplied with modified 1000 RPM BL-5000 driver	2 to 10 lbf•in
66528	Electric Smart Torq II Error-Proof System-7000	Supplied with modified 1050 RPM BL-7000 driver	5 to 21 lbf•in
66529	Electric Smart Torq II Error-Proof System-7000HT	Supplied with modified 740 RPM BL-7000HT driver	5 to 30 lbf•in

*Torque range is approximate value with specified tool. Joint conditions may effect torque output of tool.

ERROR-PROOFING SYSTEM

Compliant Drive Bit Holders for ASG Smart Torq II Controller

- Reduces mean torque shift between hard and soft joint
- Increases bit life by reducing shock on point
- 1/4" hex drive
- Fits any 1/4" hex insert style bit
- Patent pending

- Provide precise torque control on hard joints even when using full driver speed
- For use with Smart Torq II Controller and other drivers for hard joint control



Compliant Drive™ Bit Holders hold any standard hex bit.

Compliant Drive Bit Specifications

Part No.	Description	Torque Range			
		BL-3000	BL-5000	BL-7000	BL-7000HT
66570	Compliant Joint CJ-3	N/A	2-7 lbf•in	4-7 lbf•in	N/A
66571	Compliant Joint CJ-5	N/A	2-11 lbf•in	4-11 lbf•in	5-11 lbf•in
66572	Compliant Joint CJ-7	N/A	8-11 lbf•in	10-26 lbf•in	12-32 lbf•in

NOTE: Tools running at low speed may not reach high limit; tools running at high speed may not reach low limit.

- Revolutionary new non-contacting Magneto-Elastic technology
- Thermally and mechanically stable, employs no-slip rings, resistant to shock (NIST calibrated)

- ASG's Rotary Transducers provide actual torque readouts on the Smart Torq II display and for data repairs

Smart Torq II Options

Part No.	Description
66536	Remote Status Display
66543	Rotary Transducer, 5 NM, 1/4" Hex Drive
66544	Rotary Transducer, Cable 8' Standard
66545	Rotary Transducer, Cable 25' Standard



Rotary Transducer

Smart Torq Pneumatic models available. Consult ASG for specifications.



TS-III shown with side mounted display. Inset shows top-mounted display.

- Error-proofs your assembly process
- Monitors the complete assembly process
- Verification provided when proper installation of all fasteners is complete
- Automatic set-up
- Compatible with PLC's or other process control devices

TS-III Qualifier

- Visual fastener count
- Password/keylock protected
- Accept/Reject lights
- Audible reject alarm
- Eight programmable parameters
- Fault displayed on screen
- Programmable from keypad or available software
- Learns the assembly process
- Relay I/O
- Built-in power supply
- Works with ASG CL, A, SS, or BL-Series drivers (BL-Series requires 66519 tool modification)
- Complete TS-III Qualifier and driver packages available



TS-III Qualifier Specifications

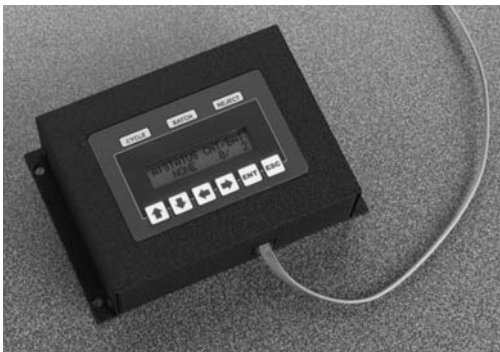
Part No.	Description
66515	TS-III Qualifier for CL-Drivers
66556	TS-III Qualifier for CL-Drivers with High Output Power Supply
66517	TS-III Qualifier for BL-Drivers
66558	TS-III Qualifier for BL-Drivers with High Output Power Supply
66519	Tool Modification for BL-Drivers

TS-III Packages

Part No.	Description
66553	TS-III BL Qualifier with BL-3000 Driver and tool modification
66550	TS-III BL Qualifier with BL-5000 Driver and tool modification
66552	TS-III BL Qualifier with BL-7000 Driver and tool modification
66554	TS-III BL Qualifier with BL-7000 HT Driver and tool modification

Optional Accessories

Part No.	Description
66555	Remote Display
66513	Remote Light Indicator
66537	Software
66538	RJ-II Cable
66539	RJ-II to RS232 Adaptor



Space saving remote display option pictured

ERROR-PROOFING SYSTEMS

TS-I Qualifier

- Visual fastener count
- Lockable key switch
- Accept/Reject lights
- Audible reject alarm
- Four programmable parameters
- Programming from keypad or provided software
- 19 Pin Bendix I/O connector

- **Error-proofs your assembly process**
- **Monitors the complete assembly process**
- **Verification provided when proper installation of all fasteners is complete**
- **Automatic calibration**
- **For use with electric or pneumatic torque control drivers**
- **Compatible with the ASG Assembly Logic, PLC's or other process control devices**



Process Verification

Consult ASG for required power system and TS-I device options.

TS-I Qualifier Specifications

Part No.	Description
66512	TS-I Qualifier for Electric Drivers, see note (2)
66514	TS-I Qualifier for Pneumatic Drivers, see note (1)
66516	TS-I Qualifier: Remote Pressure Transducer for TS-I for Pneumatic Drivers, see note (1)

Optional Accessories

Part No.	Description
66507	Interface Cable from Tool to TS-I
66508	Assembly Logic Process Controller
66509	PLC Cable from TS-I to External Control, 20'

Note (1): The TS-I for Pneumatic Drivers will not work with push to start tools.
Consult ASG for required tool modifications.

Note (2): For electric tools with separate power supplies, the Power Cable is required.
If Direct Plug In electric tools are used, consult ASG for modifications.

Torque Testers

Process Verification



Pictured is Model DTT Torque Tester with Model BL-7000 Driver. Insert photo shows DTT Tester exporting to PC.

DTT-Series Digital Torque Testers

- **Advanced features with rock solid construction**
- **Portable**
- **Easy to use**
- **Test all screw-drivers except impact clutches and pulse tools**
- **Test manual tools**
- **On-the-spot calibration**
- **Data output for SPC**

DTT-Series

- Simple output/download of data. Includes software and cables to output to a PC; easily exports to Excel® spread sheet for reporting or further manipulation
- Store up to 200 readings in memory with time/date stamp
- Has 9 user-selectable torque units for flexibility
- Peak, First Peak, and Track measurement modes are user-selectable
- Auto Reset Mode can be selected by user. Facilitates use by avoiding manual resetting between readings
- Audible Go/No Go feature lets user set a torque range. Unit beeps if reading is within limits selected.
- Selectable decimal point
- Comes with certificate of calibration traceable to N.I.S.T.



Better than $\pm 0.2\%$ of full scale.

**TORQUE ACCURACY
DTT-Series**

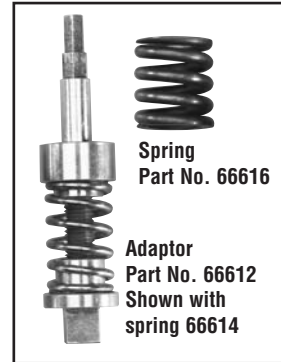
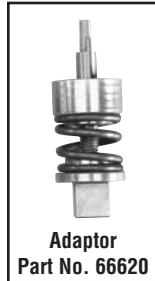
DTT-Series Specifications

Part No.	Tester	Measurement Range	Supplied With Adaptor Part No.	Size	Unit Weight	User-Selectable Torque Units	Battery	Charging Time	Lifetime per Charge
66600	DTT-5	0.025 - 5 lbf•in 0.025 - 5 kgf•cm	66620 66612*	7-1/8" x 4-3/8" x 2"	4 lb	ozf•in, lbf•in, lbf•ft gf•cm, kgf•cm, kgf•m mN•m, cN•m, N•m	1.2V NiMH cell x 6	4-6 hrs	12 hrs at full charge
66601	DTT-10	0.050 - 10 lbf•in 0.050 - 10 kgf•cm	66620 66612*						
66604	DTT-100	0.500 - 100.0 lbf•in 0.500 - 100.0 kgf•cm	66612* 66618**						
66605	DTT-200	1.000 - 200.0 lbf•in 1.000 - 200.0 kgf•cm	66612* 66618**						
66606	DTT-500	2.500 - 500.0 lbf•in 2.500 - 500.0 kgf•cm	66612* 66618**						

* 66612 is always supplied with the 66614 spring. When the 66612 is supplied with DTT-10, DTT-100, DTT-200, or DTT-500 the 66616 spring is also included for higher torque applications.

** 66618 includes 20mm female square to 3/8" male square adaptor

DTT-Series Torque Tester Accessories



Standard Adaptors: Each Tester is Supplied with One or More Adaptors

Part No.	DTT Adaptor Description	Torque Range	
66620	Small, 4mm	.25 to 2 lbf•in	Has a 3/8" square male base and fits directly into the 3/8" female square on the DTT meter
66612	Standard, 1/4" Hex	1.3 to 5 lbf•in	When fitted with yellow spring 66614
		4.5 to 26 lbf•in	When fitted with black spring 66616
66618	Large, 1/4" Hex	25 to 80 lbf•in	Has a 20mm square male base and is supplied with an adaptor to fit the 3/8" female square on the DTT meter

Replacement Battery Chargers

Part No.	Description
66610	110-120 V charger 60 hz
66630	220-240 V charger 50 hz

Standard Accessories, Supplied with Each DTT Tester

Part No.	Description
66610	110 VAC Battery Charger
66622	RS-232 Cable
66626	Plastic Case
NA	Software Package



Multi function mounting/ calibration bracket
Part No. 66624

Options for DTT-Series Testers

Part No.	Description
66624	Multi Function Mounting/Calibration Bracket
66628	Aluminum Briefcase



Aluminum briefcase
Part No. 66628

Torque Testers



HP-100 Pictured



Carrying Case



HP-Series Digital Torque Testers

- **Portable**
- **Test all screwdrivers except impact clutches**
- **Test manual tools**
- **On-the-spot calibration**
- **Max, Min & Avg Readings**
- **Data output for SPC**

HP-Series

- Analog or data signal in Mitutoyo format
- Optional adaptor and cable needed to connect to PC. See page 47
- Reads clockwise or counter-clockwise with equal accuracy
- Max, Min and Avg given of last 10 readings
- Runs on rechargeable Ni-MH batteries
- Comes with certificate of calibration traceable to N.I.S.T.
- Comes complete with aluminum carrying case, rechargeable battery (installed), battery charger and driver adaptor. See page 47 for replacement battery chargers.

±.5% of Full Scale.

**TORQUE ACCURACY
HP-Series**

HP-Series Specifications

Part No.	Tester	Measurement Range	Supplied With Adaptor Part No.	Size	Unit Weight	Read Out	Battery	Charging Time	Lifetime per Charge
64010	HP-10	0.015 - 1.000 N•m 0.015 - 9.00 lbf•in	64049	9" x 4.75" x 3"	5.25 lb	Switchable lbf•in, or N•m	1.2V NiMH cell x 5	Up to 6 hrs	8 hrs
64013	HP-100	0.015 - 1.000 N•m 0.015 - 9.00 lbf•in	64047 & 64052	9" x 4.75" x 3"	5.25 lb	Switchable lbf•in, or N•m	1.2V NiMH cell x 5	Up to 6 hrs	8 hrs

Automated or Robotic Driver Testers

HM-Series

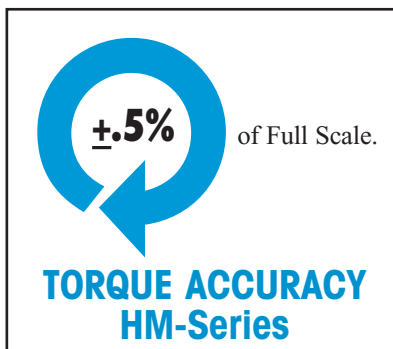
- Comes with certificate of calibration traceable to N.I.S.T.
- Easy calibration of driver without removing from machine
- Analog or data signal in Mitutoyo format
- Reads torque clockwise or counterclockwise with equal accuracy
- Runs on rechargeable NiCd batteries
- Comes complete with aluminum carrying case, rechargeable battery (installed), battery charger and driver adaptor.
See page 47 for replacement battery chargers.

- Test screwdrivers used in autofeeder, robots or built into assembly machines
- Separate transducer
- On-the-spot calibration
- Data output for SPC



Custom-made adaptor pictured with auto screwfeeder

Process Verification



HM-Series Specifications

Part No.	Tester	Measurement Range	Supplied With Adaptor Part No.	Size	Unit Weight	Read Out	Battery	Charging Time	Lifetime per Charge
64033	HM-10	0.15 - 10.00 kgf•cm 0.15 - 9.00 lbf•in 0.015 - 1.000 N•m	64044	5.7" x 6.6" x 3"	1.8 lb	Switchable lbf•in, kgf•cm, or N•m	1.2V NiCd cell x 5	15 hrs	30 hrs at full charge
64034	HM-100	1.5 - 100.00 kgf•cm 1.5 - 90.0 lbf•in 0.15 - 10.00 N•m	64045	5.7" x 6.6" x 3"	1.8 lb		1.2V NiCd cell x 5	15 hrs	30 hrs at full charge

Torque Testers



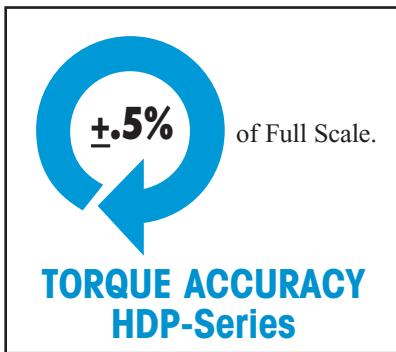
HDP-50 Pictured

QC Auditing Testers

- Measure removal torque of fasteners, bottle caps or other containers
- Measure shear strength
- Measure material strength
- Measure removal torque
- Calibrate tools
- 100 reading memory
- Max, Min & Avg Readings
- Data output for SPC

HDP-Series

- Comes with certificate of calibration traceable to N.I.S.T.
- Find the failure point for fasteners
- Find the failure point for the hole
- Audible warning tone can be set to warn operator when desired torque is approached
- Max, Min and Avg given of last 10 readings
- Analog or data signal in Mitutoyo format
- Optional adaptor and cable needed to connect to PC. See page 47
- Runs on rechargeable Ni-MH batteries
- Comes complete with aluminum carrying case, rechargeable battery (installed), battery charger and driver adaptor. See page 47 for replacement battery chargers.



HDP-Series Specifications

Part No.	Tester	Measurement Range	Size	Unit Weight	Read Out	Battery	Charging Time	Lifetime per Charge
64004	HDP-5	0.015 - 0.500 N•m 0.15 - 4.40 lbf•in	4.9" x 3.8" x 1.5"	1.7 lb	Switchable lbf•in, or N•m	1.2V NiMHcell x 5	Up to 6 hours	8 hours
64003	HDP-50	0.15 - 5.00 N•m 1.5 - 90.0 lbf•in	5.7" x 6.6" x 3"	1.7 lb				

"H-Series" Torque Tester Accessories

Driver Adaptors

Part No.	Torque Range	Drive Size	Bit Size	Use with Tester Models
64048	.25-2 lbf•in	4 mm	–	HP-10
64043	.25-2 lbf•in	–	#0 Phillips	HM-10
64049	1.3-5 lbf•in	1/4" hex	–	HP-10
64044	1.3-5 lbf•in	–	#1 Phillips	HM-10
64050	1.3-5 lbf•in	4 mm	–	HP-10
64047	4.5-26 lbf•in	1/4" hex	–	HP-100, ASG-25, ASG-50 & ASG-100
64045	4.5-26 lbf•in	–	#2 Phillips	HM-100
64055	4.5-26 lbf•in	5 mm	–	HP-100, ASG-25, ASG-50 & ASG-100
64052	26-80 lbf•in	1/4" hex	–	HP-100, ASG-50 & ASG-100
64054*	26-80 lbf•in	1/4" hex	–	HP-100, ASG-50 & ASG-100
64069	25-250 lbf•in	3/8"	–	ASG-250

*Must be used with CL-9000.



Pictured is
Part No. 64047

Replacement Battery Chargers for Portable Torque Meters

Part No.	Description	Model Used With
64018	110-120 V charger 60 hz	HP, HDP, HM & HIT-Series
64015	220-240 V charger 50 hz	HP, HDP, HM & HIT-Series

Note: Your tester is supplied with the proper charger; these units are replacements.

Computer Interface

Part No.	Description
64002	Input Tool

Note: Interface cable required to connect computer interface to torque tester

- Connect torque tester to computer
- Put data directly into spreadsheet
- Compatible with Excel® or Lotus®

Interface Cable

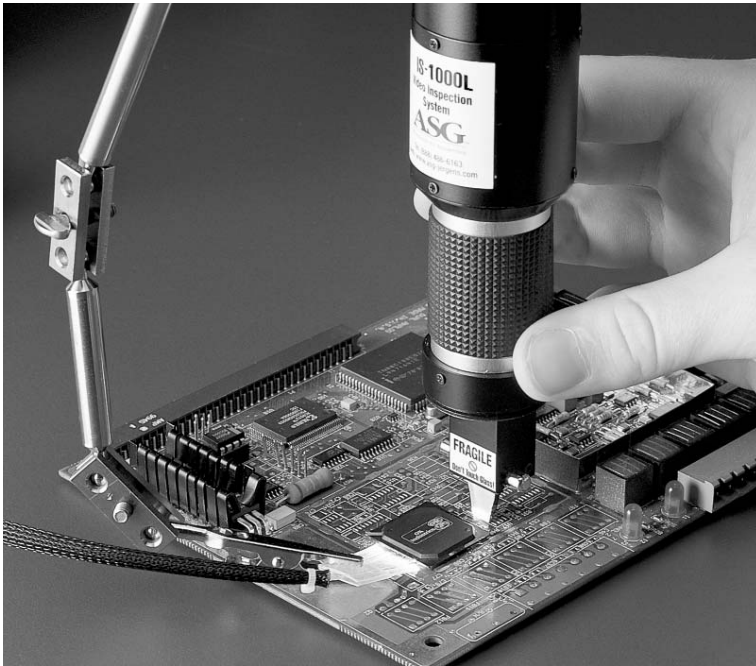
Part No.	Description
66032	1 meter length
66034	2 meter length

- From tester to printer or computer interface

Optional printer available.
Contact ASG for information.

Video Inspection Equipment

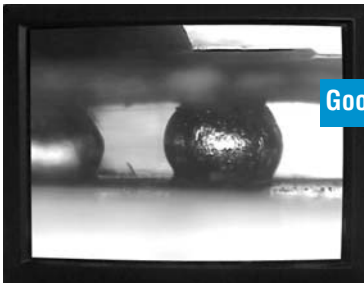
Process Verification



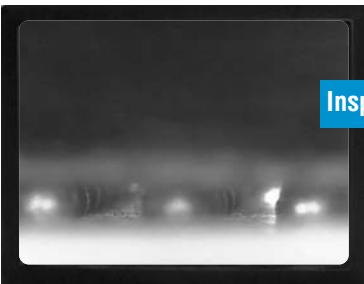
Prism illuminates object while capturing the image, allowing you to see under components. The optional fiber optic backlight (part no. 66354) provides additional illumination for maximum depth of view.

IS-1000 BGA Video Inspection Systems

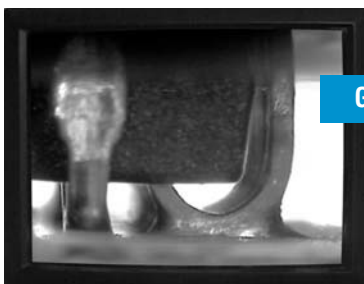
- Affordable BGA inspection tool
- Reduces field failures
- Can catch defects other tests can't reliably detect
- Provides visual inspection of hidden solder joints
- Allows viewing of multiple rows
- Lets you confirm solder ball shape, abnormalities, voids, cleanliness, bridges and more on BGAs
- Ideal for inspection of
 - BGAs
 - J-Leads
 - Micro BGAs
 - Stencils
 - Flip Chip
 - Solder Paste
 - QFPs
 - Wire Bonder
- Used as alternative to x-ray inspection, or in conjunction with x-ray
- Optional frame grabber hardware and software



Good Solder Joints



Inspect Multiple Rows



Good J-Leads

IS-1000H

- Built-in LED illumination and specially designed prisms allow easy image capture, even for closely placed components
- Backlight option available for BGA fault identification or underneath component viewing

IS-1000L

- Similar to the IS-1000, but with 70x fixed magnification camera
- Remains constant through its focus range
- Larger field of view and greater depth of view
- Provides an inspection up to eight or nine rows deep using the optional backlight system

IS-1000X

- Similar to the L and H models but with a continuously adjustable magnification from 70 to 140X
- Ideal for inspecting BGA components to make a quick analysis of fault condition

• 130X Magnification

• Delivers Superior Performance with Unbeatable Value

• 70X Magnification

• For Longer Distance Viewing

• 70-140X Adjustable Magnification



All inspection kits come with probe, 2mm angular prism, AC adaptor, RCA cable, camera cable and special prism cleaning cloth.

Process Verification

IS-1000 Specifications

Part No.	Model No.	CCD Camera	Video Format	Magnification	Resolution	Stand Off Height	Field of View	Depth of Focus
66302	IS-1000H	1/4-inch	NTSC (PAL Optional)	130X	H: 330 lines V: 350 lines	0.2 mm	1 x 2 mm	2.5 mm
66305	IS-1000L	1/4-inch	NTSC (PAL Optional)	70X	H: 330 lines V: 350 lines	0.3 mm	2 x 4 mm	12 mm
66307	IS-1000X	1/4-inch	NTSC (PAL Optional)	70-140X	H: 330 lines V: 350 lines	0.15 mm- 0.3 mm	1 x 2 mm- 2 x 4 mm	2.5 mm- 5 mm

Note: Packages for commonly configured cameras and options are available. Please call for details.

Prisms

Part No. For IS-1000L and IS-1000X	Part No. For IS-1000H	Description
66347	66336	1 mm Angular Prism
66345	66332	2 mm Angular Prism*
66343	66330	Straight Lens

* included in probe

Additional Options

Part No.	Description
66354	Fiber Optic Backlight Option
66312	650-Line High Resolution Color Video Monitor
66342	Frame Grabber (Hardware & Software)



Available options

Video Inspection Equipment



Pictured is Model HD-5000.

Hand-Held Video Microscope

- **Portable, high resolution inspection system**
- **For quality control and preventative maintenance**
- **Scope is quickly positioned and re-positioned, presenting the ultimate in inspection flexibility**

HD-5000

- Typical items inspected include circuit boards, contacts, leads, wires, molds, dies, broaches, QC, forensic and R&D materials
- Provides real-time images to any monitor
- Easily accessible “freeze” button permits any image to be captured for further evaluation
- Switchable 20X and 50X magnification; 1X, 100X, or 250X lenses available as options
- Optional USB PC interface kit; create jpg or bmp formats for presentation or web use
- Ergonomic design



Circuit Board Inspection

HD-5000 Specifications

Part No.	Model No.	CCD Camera	Video Format	Magnification	Resolution	Illumination	Power	Weight	Probe Size inch (mm)
66303	HD-5000	1/4 inch	NTSC (RCA jack pin)	20X/50X selectable	H: 811 lines W: 507 lines	Internally contained, 8 white LEDs	AC90V-250V 50/60 HZ	Approx 1 lb	5.8 (147)H 2.6 (66)W 2.6 (66)D

Options

Part No.	Description
66311	Stand / Holder
66327	Case
66323	Lens Adaptor 100x
66325	Lens Adaptor 250x
66315	USB PC Interface Kit
66329	Anti-reflection adaptor

Video Microscope Inspection Systems

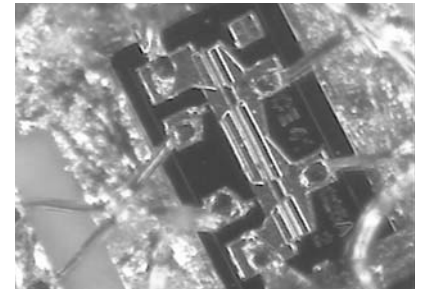
IS-3 Series

- CCD Camera: 1/4-inch
- Resolution: 542H/496V
- Video Format: NTSC (PAL optional)
- Illumination: Two settings
- Three filters allow maximum contrast under various conditions
- Input Voltage: AC 100V~240V 50/60 Hz
- Dimensions: H146 ~216 X W65 X D65.2 mm
- Weight: approx. 14 oz

- Ideal for quick monitoring of small objects
- Images can be viewed on PC or video monitor
- Magnification: 1x to 450x, (on a 14-inch monitor)
- CCD camera, lens & light source are built-in



IS-3 Inspection Kit.



Wire bond at 450x magnification.

IS-3N shown with optional stand. (Part No. 66319)

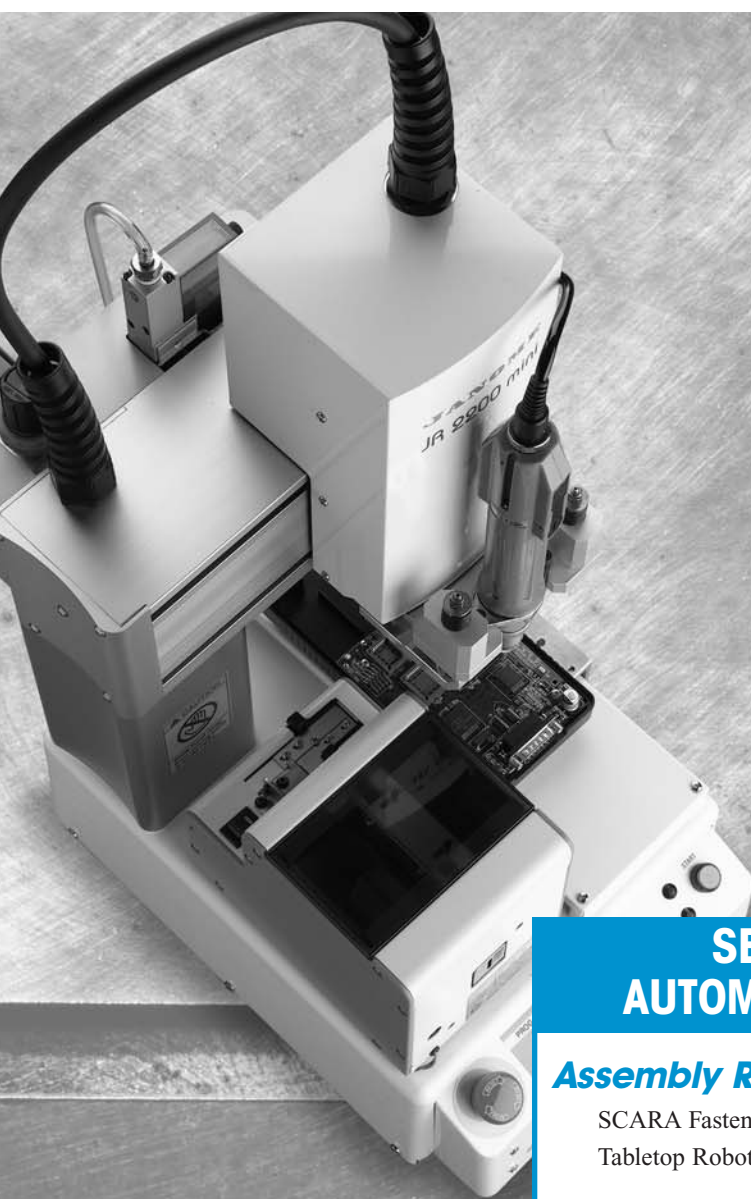


IS-3 Series Video Microscope Specifications

Part No.	Model No.	Magnification	50	100	200	300	400	450
		Depth of Focus (mm)	1500	450	200	100	60	50
		View Field (mm)	5.2 x 4	2.6 x 2	1.3 x 1	0.87 x 0.67	0.65 x 0.5	0.55 x 0.4
66300	IS-3N	Working Distance (mm)	20	11	5.5	3.5	2.5	2.0
66304	IS-3L		51	33	23	N/A	N/A	N/A

Optional Stands

Part No.	Description
66314	Basic Scope Stand (Not Pictured)
66319	Boom Arm stand with fine adjustment



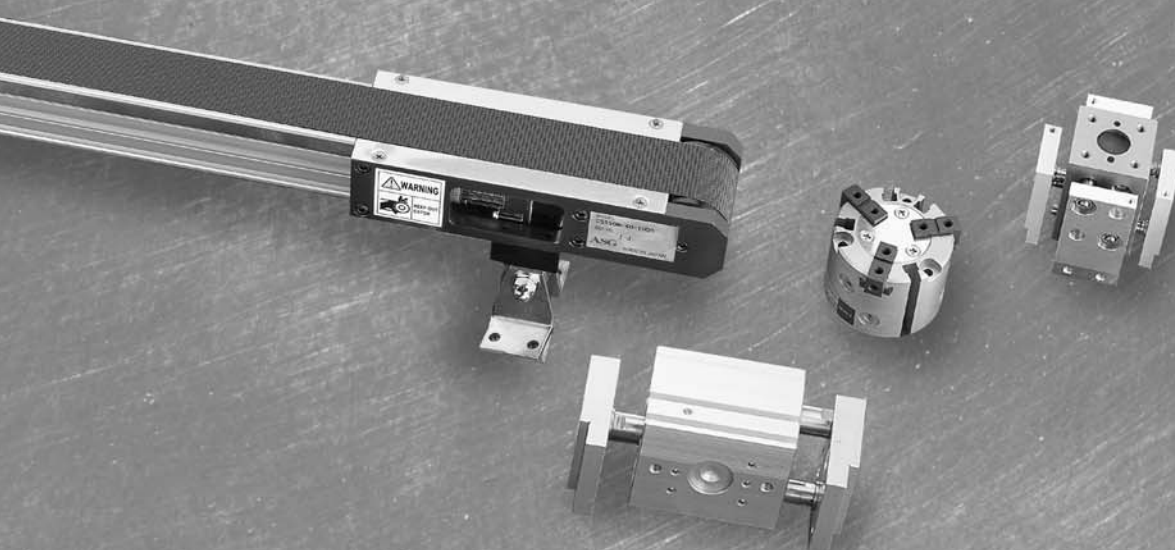
SECTION THREE AUTOMATION PRODUCTS

Assembly Robots53-55

- SCARA Fastening System53
- Tabletop Robots54-55

Auto Feed Screw Drive Systems .56-57

Assembly Automation Components58-59



SCARA Fastening System

- One size available
- Great alternative to hand assembly
- Repetitive accuracy: ± 0.01 mm Z axis, ± 0.02 mm XY axis
- Memory up to 6000 points or 100 programs
- Uses ASG DC electric torque controlled screwdriver and robotic screw feeder (quoted separately)
- Payload unlimited
- Fixturing available
- Leasing available



For additional information, contact ASG with your automation requirements.

SCARA Specifications

Part No.	Model No.	Arm Length (mm)			Range of Operation			Speed (mm/sec)			Machine Base Dimensions (mm)			
		1 Arm	2 Arm	1 & 2	1 Arm	2 Arm	Z	1 Arm	2 Arm	Z axis	Width	Depth	Height	Weight
68118	JSR-4400	260	180	440	$\pm 90^\circ$	$\pm 150^\circ$	100 mm	1500	1500	320	290	393	840	41 kg



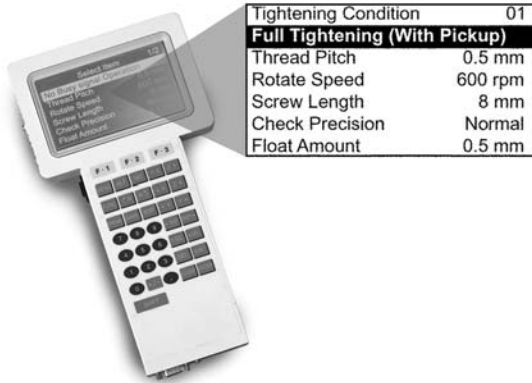
JR-2200 (Mini Platform)
Pictured

Tabletop Robots

- Used for applications requiring precise screw tightening
- Three sizes available
- Great alternative to hand assembly
- Input exact conditions for torque and speed
- Repetitive accuracy: ± 0.01 mm
- Memory up to 6000 points or 100 programs
- Error detection
- Uses ASG DC electric torque controlled screwdriver
- External start and emergency stop button
- Built-in Sequencer
- Easy set up for quick start-up
- Affordable for any shop
- Fixturing available
- Leasing available

Teaching Pendant

- Large screen teaching pendant for easy programming
- No robotic language programming
- RS-232 compatible
- PLC function 100 steps or 50 programs
- Standard with all tabletop robots

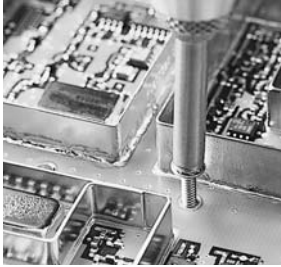


Tabletop Robot Specifications

Part No.	Model No.	Work Envelope (mm)*			Speed (mm/sec)			Payload Y axis	Machine Dimensions (mm)				Power Source
		X axis	Y axis	Z axis	X axis	Y axis	Z axis		Width	Depth	Height	Weight	
68120	JR-2203	200	200	50	5-500	5-500	2.5-250	7 kg	320	377	536	18 kg	100-200V
68112	JR-2303	300	320	100	8-800	8-800	3.2-320	11 kg	560	529	649	35 kg	100-200V
68122	JR-2403	400	400	150	8-800	8-800	3.2-320	11 kg	584	629	799	42 kg	100-200V

*Work envelope varies dimensionally based on tool or feeder used.

Tabletop Robots are ideal for these types of applications:



Nimble enough to get into tight spaces.



Easily accommodates counterbores to 1" deep.



Great for critical plastic assemblies.

For additional information on tabletop robots, contact ASG with your automation requirements.

JR-2300
(Middle Platform)
Pictured



JR-2400
(Large Platform)
Pictured



Auto Feed Screw Drive Systems



Systems for Electric Drivers

- **0.5 to 40 lbf•in torque**
 - **Fast**
 - **Fully automatic**
 - **Dependable**
 - **Process control available**
 - **Quiet operation**
 - **Operator friendly**
 - **Versatile**
 - **Economical to operate**
- #00 to 1/4" screws depending on driver used
 - Screws supplied up to 1 per second
 - Engineered for your application rather than modified to "work for that"
 - Foam grip and optional torque reaction arm assure low fatigue and ease of operation
 - Units can be designed for a wide range of fasteners including hex body "stand offs"
 - 40 psi of air required only to blow screws to jaw assembly
 - ASG has a special torque meter available to test the driver without disassembling the unit. See page 45 for HM-Series torque testers.
 - ASG's Error-Proofer devices can be adapted for use with the Auto Screw Feed Systems to provide information such as fastener counts and verification that fastener was driven to torque. See page 38 for information.

For additional information, contact ASG with your automation requirements.

Auto Feed Vibratory Bowl

- **Large capacity**

- Vibratory bowl is in a sound deadening enclosure
- Hold 3.5 lb. or 7.5 lb. of fasteners



Enclosed vibratory bowl

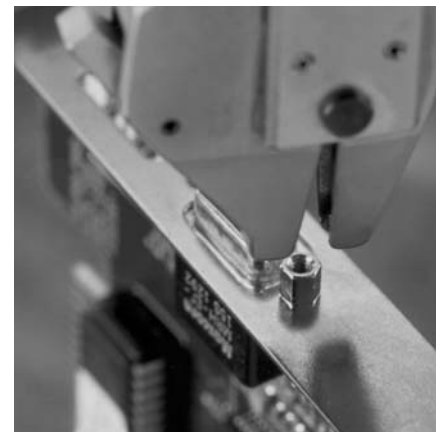
Auto Feed Jaws

- **Positive screw extension**

- Jaws hold screw in place so it can be easily seen and placed in hole
- Simple to use: place the jaws where the screw is needed and press
- Jaws can be custom designed to fit tight areas and non-marring surface applied to jaws



Narrow pointed jaws provide maximum screw visibility



Ideal for feeding stand offs

Auto Screw Feed Specifications

Part No.	Screw Sizes	Torque Range	Driver Type	Driver Bits	Bowl Capacity	Bowl Feeder Dimensions				Power Source
						Width	Depth	Height	Weight	
67100	#0 - #6 x 0.75	0.5 - 8 lbf•in	DC Electric	1/4 hex or 4 mm	3.5 lbs.	13"	13"	15"	60	110 VAC
67110	#6 - 1/4 x 1.50	2.0 - 25 lbf•in	DC Electric	1/4 hex or 4 mm	7.5 lbs.	12"	21"	14"	100	110 VAC



Conveyors

- Largest selection: 17 families to choose from
- Easily modified
- Custom conveyors are available at a minimum charge
- Belt widths up to 20", down to 3/4"
- Pulley diameter down to 1-1/8"
- Lengths from 8" to 14'
- Conveyor comes with motor and drive (AC or DC, fixed or variable speed)
- 1-year warranty on entire conveyor/motor/drive package
- Roller knife-edge designs available
- CAD drawings available for the asking

- Widths 20 mm - 500 mm.
- Lengths 500 mm to 2000 mm.
- Capacities to 100 lbs



Air Grippers

- Largest selection anywhere
- Scissor or parallel styles with either rack & pinion or linkage
- Single gripper lift capacities up to 9.0 lbs
- Repetitive accuracy of 0.2 mm (.008 inches)



Rotary Actuators

- Come "loaded" – what competitors offer as options are standard for us

Slide Assemblies

- Combine with other components to perform in X, Y or Z axis
- Strokes 15 mm to 3000 mm
- Load capacities to 66 lbs.

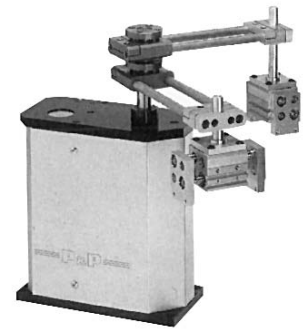
- **Unique rod design**
- **Compact package**
- **Space saving**



Pick & Place Units

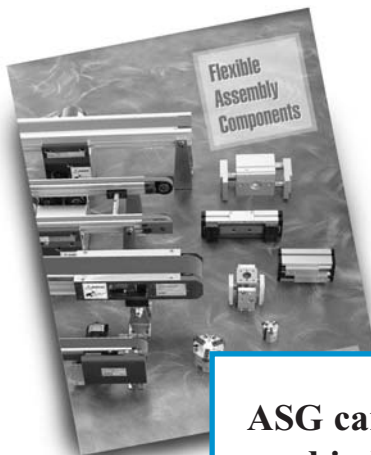
- Use as a stand alone unit or with other components to create an entire system
- 30 cycles a minute (max)

- **Pneumatically-driven, mechanically-positioned**
- **One air input controls grip, lift, rotation**



Vacuum Generators

- **Most efficient generators in the industry – more lift for less air**



**Free
Catalog
Available**

ASG can provide over 2,000 components that can be used individually or bolted together “building block” style to create entire systems. Call 1-888-486-6163 for Engineering Assistance, Fast Nationwide Delivery and your copy of the ASG/NKE catalog.



SECTION FOUR PRODUCTION AIDES

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Adjustable Rail Feeders

SAS-705A

- “No Fumble” pick-up; vibration has been eliminated at pick-up point
- Handles various size fasteners and complex head shapes
- Bi-directional brush rotation provides fast removal of improperly positioned screws (jams)
- Fully adjustable vibration control for all sizes and types of fasteners

- **No rail changes necessary; adjusts to accommodate screw size**
- **Single feeder will feed screws from sizes #0-#10**



Fits all these styles.

Bit Information: Most standard power bits can be used with the screwfeeder. See pages 30-33 for a complete selection.

Accessories

Bit Magnetizer	Part No. 65230	AC Adaptor	Part No. 65217
Bit Magnetizer Ring	Part No. 65235	AC Cord	Part No. 65219

SAS-705A Specifications

Part No.	Model No.	Size	Max Screw Length Inches	Weight	Screw Feeding Speed	Power	Required Bits
65430	SAS-705A	4.7" x 4.6" x 6.1"	.7874 (18 mm)	4.41 lbs.	0.5 sec/piece	12VDC (transformer included)	Standard

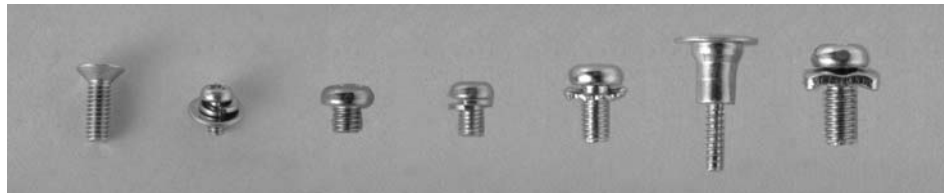
Screw Feeders



NJL-2320 Pictured

Interchangeable Rail Feeders

- **Accommodates wide variety of screw sizes by plugging in interchangeable rails**
 - **Handles #000 to #10 screws; even with washers**
 - **Doesn't require multiple dedicated-size feeders**
 - **Models for robotic applications available.**
- Contact ASG.**
- NSB & NJ-Series**
- Simple operation
 - Pick-up rate of up to two screws per second
 - Screws are poured into hopper and automatically lined up
 - Flat, horizontal rail design eliminates screw "jams"
- NJL Model**
- Feeds screws up to 25 mm long
 - Same physical structure as the NJ models



Feeds all these types of screws.

General Specifications for NJ, NJL and NSB-Series

	NJ & NJL-Series	NSB-Series
Size	5 1/4"(W) x 8 1/2"(D) x 5 1/3"(H)	4 7/8"(W) x 7 1/8"(D) x 5 3/4" (H)
Weight	7 lb.	6.5 lb.
Screw feeding speed	2 screws per second	
Screw capacity	Approx. 1,200 4-40 x 1/4"	
Screw size	#000 through #10 (1.0mm through 5.0 mm)	
Power	110-120 VAC to 12VDC, 500mA (Adaptor supplied – Part No. 65225)	

NSB Models Require Special Bits.

See page 32.

Interchangeable Rail Feeders



NSB Pictured with interchangeable rails shown at the side.

NSB & NJ-Series Specifications and Optional Rail Assemblies

Standard Part No.	Standard Model No.	Screw Size Inch	Screw Size Metric	Max Screw Dia. ** Inches	Max Length Inches	Rail* Model No.	Rail* Part No.	Part No. For Flat Head or Short Screws	Model No. For Flat Head or Short Screws	Required Bits
67240	NSB-10	#000	1.0 mm	0.0433	0.7874	SR 10	67320	Use Std. Part #	Use Std. Unit	Special Bits for NSB Units only, see pg. 32
67241	NSB-12	#00	1.2 mm	0.0472	0.7874	SR 11	67321			
67242	NSB-14	#0	1.4 mm	0.0570	0.7874	SR 14	67322			
67243	NSB-17	N/A	1.7 mm	0.0709	0.7874	SR 17	67323			
67244	NSB-20	#1	2.0 mm	0.0866	0.7874	SR 20	67324			
67245	NSB-23	#2	2.3 mm	0.0984	0.7874	SR 23	67325			
67246	NSB-26	#3	2.6 mm	0.1102	0.7874	SR 26	67326			
67247	NSB-30	#4	3.0 mm	0.1259	0.7874	SR 30	67327			
67212	NJ-4535	#6	3.5 mm	0.1496	0.7086	R 35	67312	67264	NJ-4535 F	Standard
67214	NJ-4540	#6 & #8	4.0 mm	0.1771	0.7086	R 40	67314	67266	NJ-4540 F	
67216	NJ-4550	#10	5.0 mm	0.2087	0.7086	R 50	67316	67268	NJ-4550 F	

NJL-Series Specifications and Optional Rail Assemblies

Part No. for NJL-Series	Model No. for NJL-Series	Screw Size Inches	Screw Size Metric	Max. Screw Dia. ** Inches	Max. Length Inches	Rail Part No.	Rail Model No.	Required Bits
67400	NJL-2320	#1	2.0 mm	0.0866	1.0	67340	RL20	Standard
67402	NJL-2323	#2	2.3 mm	0.0984	1.0	67341	RL23	
67404	NJL-2326	#3	2.6 mm	0.1102	1.0	67342	RL26	
67406	NJL-2330	#4	3.0 mm	0.1259	1.0	67343	RL30	
67408	NJL-4535	#6	3.5 mm	0.1496	1.0	67344	RL35	
67410	NJL-4540	#6 & #8	4.0 mm	0.1771	1.0	67345	RL40	
67412	NJL-4550	#10	5.0 mm	0.2087	1.0	67346	RL50	

* Note! Each model is supplied with the rail listed as standard equipment.

**This is the maximum thread diameter that the unit can accept. Smaller diameter fasteners can be used in the units as long as the HEAD DIAMETER is larger than the diameter listed.

Accessories

Adjusting Tool	Part No. 65232
----------------	----------------

Bit Magnetizer	Part No. 65230
Bit Magnetizer Ring	Part No. 65235

Screw Feeders



Fixed Rail Feeders

- Pick up and drive screws 37% faster* than hand feeding
- Simple to operate
- Fully automatic; dump screws in hopper, dipper scoops them out “heads-up”
- Operator snaps up screws with magnetized bit
- Low cost vs. conventional bowl feed systems

*based on 8-32 x 3/8" screws

SAS-Series

- Units are available to handle #0 to #12 fasteners
- Accepts ferrous Phillips®, TORX®, ACR Phillips®, Tri-Wing®, socket head, Freason® and PoziDrive® screws
- Built-in vibratory system (used for screws with captive washers)
- Compact and lightweight—approximately 4"x4"x5", 2.5 lbs.
- Also suitable for non-ferrous TORX® screws when TORX® wedge bit is used

SAS Models Require Special Bits.

See page 32.

Standard Model SAS/V-Series Specifications

Part No.	Model No.	Millimeters Max. Nominal Screw Size	Inches Max. Nominal Screw Size	Max. Fastener Dia. (In.)*	Min. Length (In.)	Max. Length (In.)	Required Bits
65201	SAS-514 II V	1.4 mm	#0	.0610	.0629	.7086	Special Bits, see page 32.
65203	SAS-517 II V	1.7 mm	N/A	.0709	.0748	.7086	
65202	SAS-520 II V	2.0 mm	#1	.0807	.0827	.7086	
65204	SAS-523 II V	2.3 mm	#2	.0984	.1024	.7086	
65205	SAS-526 II V	2.6 mm	#3	.1102	.1184	.7086	
65208	SAS-530 II V	3.0 mm	#4	.1299	.1378	.7086	
65210	SAS-535 II V	3.5 mm	#6	.1496	.1575	.7086	
65215	SAS-540 II V	4.0 mm	#6 + #8	.1771	.1811	.7086	
65220	SAS-550 II V	5.0 mm	#10	.2087	.2126	.7086	
65221	SAS-560 II V	6.0 mm	#12	.2461	.2520	.7086	

ASG screw feeders accept these screw head styles:



Fixed Rail Feeders

- Models available for counter-sunk or flat head screw head styles (See VF Models)
- Models for robotic applications available (See RS Models)
- Models for clean room use available (See CL Models)
- ESD Models available (See ESD Models)

SAS-Series Flathead, Robotic, Clean Room & ESD SAS/VF, RS & CL & ESD-Series Specifications

Part No.	Model No. for Flathead Screws	Part No.	Model No. for Robotic Applications	Part No.	Model No. for Clean Room Applications	Part No.	Model No. for ESD Safe Applications	Millimeters Max. Nominal Screw Size	Inches Max. Nominal Screw Size	Max. Fastener Dia. (in.)	Min. Length (in.)	Max. Length (in.)	Required Bits
65401	SAS-514 II VF	65301	SAS-514 II RS	65421	SAS-514-CL	65432	SAS-514-ESD	1.4 mm	#0	.0610	.0629	.7086	Special Bits, see page 32.
65402	SAS-517 II VF	65302	SAS-517 II RS	65422	SAS-517-CL	65434	SAS-517-ESD	1.7 mm	N/A	.0709	.0748	.7086	
65403	SAS-520 II VF	65303	SAS-520 II RS	65423	SAS-520-CL	65436	SAS-520-ESD	2.0 mm	#1	.0807	.0827	.7086	
65404	SAS-523 II VF	65304	SAS-523 II RS	65424	SAS-523-CL	65438	SAS-523-ESD	2.3 mm	#2	.0984	.1024	.7086	
65405	SAS-526 II VF	65305	SAS-526 II RS	65425	SAS-526-CL	65440	SAS-526-ESD	2.6 mm	#3	.1102	.1184	.7086	
65406	SAS-530 II VF	65306	SAS-530 II RS	65426	SAS-530-CL	65442	SAS-530-ESD	3.0 mm	#4	.1299	.1378	.7086	
65410	SAS-535 II VF	65309	SAS-535 II RS	65427	SAS-535-CL	65444	SAS-535-ESD	3.5 mm	#6	.1496	.1575	.7086	
65407	SAS-540 II VF	65307	SAS-540 II RS	65428	SAS-540-CL	65446	SAS-540-ESD	4.0 mm	#6 + #8	.1771	.1811	.7086	
65408	SAS-550 II VF	65308	SAS-550 II RS	65429	SAS-550-CL	65448	SAS-550-ESD	5.0 mm	#10	.2087	.2126	.7086	

*This is the maximum thread diameter each unit may accept. Smaller thread diameters may be used in most units as long as the head diameter is greater than the diameter listed.

Accessories

Adjusting Tool	Part No. 65232	SAS-Series AC Adaptor	Part No. 65218
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Bit Magnetizer	Part No. 65230
Bit Magnetizer Ring	Part No. 65235

SAS Models Require Special Bits.
See page 32.

Automatic Tape Dispensers



Model EZ-7000 with Kapton® tape pictured.

NEW!

Compact Dispenser

- Our most versatile dispenser, small size fits on any workbench or assembly station

Model EZ-7000

- Choose from four dispensing modes:
 - “Automatic” feeds and cuts when tape is pulled from dispenser
 - “Manual” presents tape at push of a button
 - “Preset” allows cutting of pre-selected number of pieces; machine stops and buzzer sounds when complete
 - “Loop” allows continuous cutting and dispensing of non-adhesive material up to a designated number
- No bobbin required. Easily adjusts to accommodate large rolls and multiple widths
- Cuts multiple rolls if each tape width is less than 20 mm
- Cuts aluminum foil and Kapton tape



Model EZ-7000 RP pictured.

NEW!

Compact Double-Sided Tape Dispenser

- Unique design removes tape backing or liner
- EZ-7000 RP tape dispenser retains all features of standard model EZ-7000 (shown above)

Production Aides

Compact Tape Dispenser Specifications

Part No.	Model No.	Tape Width	Cut Length	Accuracy of Cut	Max Outside Dia. Tape Roll	Length Setting	Core Diameter of Tape Roll	Auto Feed	Weight	Dimensions	Electrical Requirements
66125	EZ-7000	1/4 to 2" (6 to 55 mm)	3/16 to 39" (4 to 999 mm)	± .08 (2 mm)	12" (300 mm)	Digital	N/A*	Yes	6.3 lbs (2.8 Kg)	4.5 x 5.5 x 8.5" (11.5 x 14.0 x 21.5 cm)	120V 50/60 Hz
66130	EZ-7000 RP	1/4 to 2" (6 to 55 mm)	3/16 to 39" (4 to 999 mm)	± .08 (2 mm)	12" (300 mm)	Digital	N/A*	Yes	6.3 lbs (2.8 Kg)	4.5 x 5.5 x 8.5" (11.5 x 14.0 x 21.5 cm)	120V 50/60 Hz

* Unit does not use a bobbin, therefore any size tape core is useable.

† 220v 50/60Hz Available

Standard Dispensers

EZ-6000-Series

- Increases productivity — reach for a piece of tape and it is there
- Cuts lengths from 80mm to 999mm in 1mm increments
- Eliminates wasted tape
- Cuts most types of tape
- Automatic dispensing presents the next piece of tape. Manual dispensing presents the next piece of tape at the easy push of a button
- ESD Model available

- Present a piece of tape cut to your precise length
- Either manual or automatic dispensing
- Kapton-specific version available. See Model EZ-6000K below.



Model EZ-6000K for Kapton tape.

Standard Tape Dispenser Specifications

Part No.	Model No.	Tape Width	Cut Length	Accuracy of Cut	Max Outside Dia. Tape Roll	Length Setting	Core Diameter of Tape Roll	Auto Feed	Weight	Dimensions	Electrical Requirements
66121	EZ-6000	.25 to 3.13" (6.35 to 79.38 mm)	3.14 to 39.33" (80 to 999 mm)	± .125" (3.2 mm)	4.75" (120.65 mm)	Digital	3" (76.02 mm)	Yes	20.16 lbs (9.14 Kg)	9.5 x 6.5 x 12.25" (24.13 x 16.51 x 31.12 cm)	120V 50/60Hz [†]
66122	EZ-6000K	.38 to 1.5" (9.5 to 38.1 mm)	3.14 to 39.33" (80 to 999 mm)	± .125" (3.2 mm)	4.75" (120.65 mm)	Digital	3" (76.02 mm)	Yes	21.5 lbs (9.75 Kg)	9.5 x 6.5 x 12.25" (24.13 x 16.51 x 31.12 cm)	120V 50/60Hz [†]

Carousel Dispenser

Model EZ-2000

- Cuts 10 pieces of tape at the touch of a button
- Places each piece on carousel for easy removal



Model EZ-2000 Pictured

Carousel Tape Dispenser Specifications

Part No.	Model No.	Tape Width	Cut Length	Accuracy of Cut	Max Outside Dia. Tape Roll	(w/optional stand)	Length Setting	Core Diameter of Tape Roll	Auto Feed	Weight	Dimensions	Electrical Requirements
66100	EZ-2000	.12 to .99" (3 to 25 mm)	.51 to 2.37" (13 to 60 mm)	± .08" (2mm)	up to 5.14" (130 mm)	6.73" (170 mm)	Mechanical	3" (26, 32 & 77 mm)	No	6.2 lb. (2.75 kg)	6.3 x 11.8 x 6.3" (16 x 30 x 16 cm)	120V 50/60Hz, <1 amp†

†220v 50/60Hz Available (Part No. 915227)

Automatic Tape Dispensers



Model EZ-3250

Extra Heavy Duty/ Wide Dispensers

- Designed for continuous industrial application
- Manual or automatic dispensing
- Cuts virtually any tape
- Reduces operator fatigue; no sudden twisting action by user

EZ-3000-Series

- Available for vinyl, masking, cellophane, polyethylene, paper, cotton cloth, Mylar®, Kapton®, anti-static, polyimide, glass cloth, aluminum foil, double sided, Teflon®, Nomex®, glass filament and others
- Variable dispensing intervals
- Eliminates waste; each piece is perfect
- Fully enclosed metal cabinet
- Additional models available. Consult ASG with your application
- Optional tape stand available to accommodate larger diameter tape roll

Extra Heavy Duty/Extra Wide Tape Dispenser Specifications

Part No.	Model No.	Tape Width	Cut Length	Accuracy of Cut	Max Outside Dia. Tape Roll	(w/optional stand)*	Length Setting	Core Diameter of Tape Roll	Auto Feed	Weight	Dimensions	Electrical Requirements
66102	EZ-3000	.59 to 2.37" (15 to 60 mm)	1.98 to 39" (40 to 999 mm)	±.125" (3.2 mm)	up to 7.91" (200 mm)	15.83" (400 mm)	Digital	3" (35 & 78 mm)	Yes	25.3 lb. (11.5 kg)	7.5 x 9.8 x 11.4" (19 x 25 x 29 cm)	120V 50/60Hz†
66115	EZ-3000K	.59 to 2.37" (15 to 60 mm)	1.98 to 39" (40 to 999 mm)	±.125" (3.2 mm)	up to 7.91" (200 mm)	15.83" (400 mm)	Digital	3" (35 & 78 mm)	Yes	25.3 lb. (11.5 kg)	7.5 x 9.8 x 11.4" (19 x 25 x 29 cm)	120V 50/60Hz†
66104	EZ-3080	.59 to 3.17" (15 to 80 mm)	1.98 to 39" (40 to 999 mm)	±.125" (3.2 mm)	up to 5.54" (130 mm)	11.87" (300 mm)	Digital	3" (35 & 78 mm)	Yes	26.5 lb. (12 kg)	7.5 x 9.8 x 11.4" (19 x 25 x 29 cm)	120V 50/60Hz†
66106	EZ-3150	.59 to 5.94" (15 to 150 mm)	1.98 to 395" (40 to 9999 mm)	±.125" (3.2 mm)	up to 7.91" (200 mm)	15.83" (400 mm)	Digital	3" (35 & 78 mm)	Yes	39.7 lb (18 kg)	13 x 9.8 x 11.4" (33 x 25 x 29 cm)	120V 50/60Hz†
66108	EZ-3250	.59 to 9.89" (15 to 250 mm)	1.98 to 395" (40 to 9999 mm)	±.125" (3.2 mm)	up to 7.91" (200 mm)	15.83" (400 mm)	Digital	3" (35 & 78 mm)	Yes	47.4 lb (21.5 kg)	17 x 9.8 x 11.4" (43 x 25 x 29 cm)	120V 50/60Hz†

†220v 50/60Hz Available

*Tape roll sample required for ordering



Label Dispenser

HLD-2000

- Dispenses and removes backings of labels, die-cut parts and security tape
- Extremely high speed: dispenses over 130 pieces per minute
- Easily adjustable photo sensor for different types of labels
- Utility holder can firmly hold the label roll easily
- Compact design, easily fits workstation



Model HLD-2000

Label Dispenser Specifications

Part No.	Model No.	Length of Label	Width of Backing Paper	Feeding Speed	Diameter of Outside Roll	Weight	Dimensions	Electrical Requirements
66128	HLD-2000	.590 to 3.9" (15 to 100 mm)	.39 to 2.95" (10 to 75 mm)	130 pcs./min.	7.0" (180 mm)	9.2 lbs (4.2 Kg)	4.5 x 5.5 x 8.5" (11.5 x 14.0 x 21.5 cm)	120V 50/60 Hz

Torque Arms for Light Assembly

- Easily mounts or clamps to bench-top (clamp optional)
- Maintains tool location while allowing easy movement
- Absorbs torque; reducing potential operator injury to arm, wrist or hand
- Durable, lightweight
- Adjustable height
- Heavy duty springs
- Tool mount couplings available for lever-start tools

Torque Arm Specifications

Part No.	Max. Torque Reaction	Max . Tool Weight	Linkage Type	Stand Height	Max. Arc
65050	100 lbf.in	10 lbs.	Parallel	30" in.	24" in.
65046	100 lbf.in	10 lbs.	Parallel	30" in.	18" in.
65054	100 lbf.in	10 lbs.	Parallel	30" in.	30" in.

Tool Mount Couplings

Part No.	Description
65042	For use with lever start A, CL, SS, BL-3000 & BL-5000 Series
65043	For use with VZ-Series
65047	For use with BL-7000

Optional Bench Clamp

- For use with torque arms
- Clamps easily to bench top (up to 2 1/8" thick) without having to drill holes

Bench Clamp Specifications

Part No.	Description
65052	For use with 65050, 65046 & 65054



65050 pictured with BL-7000 and 65047 tool mount coupling



Close-up of bench clamp

Tool Support Stands



Part Nos. 64312 & 64315

- Simplest and least expensive tool stands
- Used with either model ASG tool and spring balancers or positioner

Part No.	Description	Workable Range
64312	Short Support	Height - 38" Offset - 10"
64315	Long Support	Height - 38" Offset - 18"



Tool Balancers & Positioners

- Reduce operator fatigue
- Two types available: retracting and positioning

Part No.	Description	Weight Capacity	Cord Length
64308	Tool Balancer	4 lbs.	60"
64309	Tool Balancer	2 lbs.	60"
64313	Tool Positioner	5 lbs.	55"
64021	Spring Balancer	1-3 lbs.	55"
64022	Spring Balancer	3-6 lbs.	55"



- Made of tempered anodized aluminum tubing
- Fittings are engineered plastic with 20% glass reinforced polycarbonate
- Rust-proof, chip-proof finish (no paint used)

Part No. 65006

- Most versatile tool stand
- Adjusts both vertically and horizontally in any direction (full 360° rotation)
- Height and swing can be locked in any position

Part No. 65003

- For applications that require less vertical adjustment
- Height is limited to the length of the main vertical arm
- Supports one tool up to 15 lbs.

Tool Stand Specifications

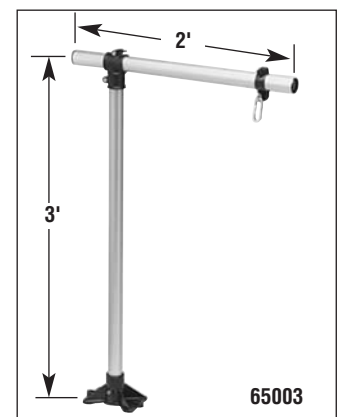
Part No.	Height	Arm Length
65006	41" - 70"	up to 3'
65003	up to 36"	up to 2'

Optional Bench Clamp Specifications

Part No.	Description
65045	For use with 65003 & 65006

Tool Support Stands

- Prevent tool from falling off bench
- Protect your investment
- Keep cords out of operator's way
- Made of extra strong material



Bench Clamp

- For use with Tool Support Stands
- Easily clamps to bench-top (up to 2-1/8" thick) without having to drill holes



Close-up of bench clamp, Part No. 65045

Reference Values

Torque Values for Various Fastener Materials (lbf•in except where noted)

Screw Size	Threads per inch	Phillips Bit Size	Mild Steel	18-8 Stainless Steel	316 Stainless Steel	Brass	Silicon Bronze	2024-T Aluminum	Monel	Socket Head Cap Screw	Flat Head Cap Screw	Set Screw	Button Head Cap Screw
0	80	0	1	14 ozf•in	16 ozf•in	11 ozf•in	13 ozf•in	8 ozf•in		2.6	2.0	8 ozf•in	1.5
1	64	0	1.5	1.5	1.5	1.2	1.5	9 ozf•in		4.5	4.2	1.8	2.0
	72	0	2							4.8			
2	56	1	2.2	2.5	2.6	2.0	2.3	1.4	2.5	7.5	4.2	1.8	4.0
	64	1	2.7							3.0			
3	48	1	3.5	3.9	4.0	3.2	3.6	2.1	4.0	11.0	7.0	5.0	5.5
	56	1	4.0							4.4			
4	40	1	4.7	5.2	5.5	4.3	4.8	2.9	5.3	16.0	9.5	5.0	7.5
	48	1	5.9							6.6			
5	40	2	6.9	7.7	8.1	6.3	7.1	4.2	7.8	24.0	19.0	9.5	11.0
	44	2	8.5							9.4			
6	32	2	8.7	9.6	10.1	7.9	8.9	5.3	9.8	30.0	19.0	9.5	12.5
	40	2	10.9							12.1			
8	32	2	17.8	19.8	20.7	16.2	18.4	10.8	20.7	55.0	30.5	19.4	23.0
	36	2	19.8							22.0			
10	24	2	20.8	22.8	23.8	18.6	21.2	13.8	25.9	79.0	65.0	33.5	45.0
	32	2	29.7							31.7			
1¼"	20	3	65.0	75.2	78.8	61.5	68.8	45.6	85.3	200.0	140.0	77.9	105.0
	28	3	90.0							94.0			

- Blank area indicates that no torque values are available for fasteners in these sizes and material.
- Some fastener types only have one torque value for two different threads per inch.

Torque Conversion Factors

Units to be Converted	Imperial			Metric			International System		
	ozf•in	lbf•in	lbf•ft	gf•cm	kgf•cm	kgf•m	mN•m	cN•m	N•m
1 ozf•in =	1.0	0.0625	0.005	72.0	0.072	0.0007	7.062	0.706	0.007
1 lbf•in =	16.0	1.0	0.083	1152.1	1.152	0.0115	113.0	11.3	0.113
1 lbf•ft =	192.0	12.0	1.0	13826.0	13.83	0.138	1356.0	135.6	1.356
1 gf•cm =	0.014	0.0009	0.00007	1.0	0.001	0.00001	0.098	0.01	0.0001
1 kgf•cm =	13.89	0.868	0.072	1000.0	1.0	0.01	98.07	9.807	0.098
1 kgf•m =	1389.0	86.8	7.233	100000.0	100.0	1.0	9807.0	980.7	9.807
1 mN•m =	0.142	0.009	0.0007	10.2	0.01	0.0001	1.0	0.1	0.001
1 cN•m =	1.416	0.088	0.007	102.0	0.102	0.001	10.0	1.0	0.01
1 N•m =	141.6	8.851	0.738	10197.0	10.20	0.102	1000.0	100.0	1.0

Torque Values for Small Metric Fasteners (kgf•cm)

Type of Screw Head	Metric Screw Size									
	M2.0	M2.3	M2.6	M3.0	M3.5	M4.0	M4.5	M5.0	M6.0	M8.0
Pan Head	1.4	2.3	3.3	4.9	8.2	12.0	17.0	24.0	42.0	104.0
Truss Head	1.5	2.5	3.6	5.3	9.1	13.0	19.0	26.0	47.0	113.0
Binding Head	1.5	1.5	3.6	5.1	8.8	13.0	18.0	25.0	45.0	110.0
Flat or Oval Head	1.8	3.9	4.2	6.1	10.4	15.0	23.0	30.0	53.0	132.0

Torque Chart: BL, CL, SS, VZ, ACL & Alpha Series Drivers

Drivers	Torque (lbf•in)																												
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	26	30	34	42	69
BL-3000	■																												
BL-5000	■	■																											
BL-7000	■	■	■																										
BL-7000HT	■	■	■	■																									
CL-2000	■	■																											
CL-3000	■	■	■																										
SS-3000	■	■	■	■																									
CL-4000	■	■	■	■	■																								
SS-4000	■	■	■	■	■	■																							
A-4500	■	■	■	■	■	■	■																						
A-5000	■	■	■	■	■	■	■	■																					
CL-6000	■	■	■	■	■	■	■	■	■																				
CL-6500	■	■	■	■	■	■	■	■	■	■																			
SS-6500	■	■	■	■	■	■	■	■	■	■	■																		
A-6500	■	■	■	■	■	■	■	■	■	■	■	■																	
A-6500HT	■	■	■	■	■	■	■	■	■	■	■	■	■																
CL-7000	■	■	■	■	■	■	■	■	■	■	■	■	■	■															
CL-7000HT	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■														
SS-7000	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■														
CL-9000	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■													
CL-9000HT	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■												
ACL-10	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
BL-5000-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SSCR-3000-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SSCR-4000-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SSCR-6500-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SSCR-7000-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SS-3000-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SS-4000-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SS-6500-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
SS-7000-ESD	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
VZ-1820	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
VZ-3012	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
VZ-3012LT	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
VZ-4506	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

Recommended Screw Sizes by Driver & RPM

Tool	Screw Sizes Inches*	Screw Sizes Metric	RPM		Tool	Screw Sizes Inches*	Screw Sizes Metric	RPM	
			20VDC	30VDC				20VDC	30VDC
BL-3000	000 to 2	1.0 to 2.3	1100	960	SS-6500	1 to 6	2.0 to 3.5	600	900
BL-5000	1 to 4	2.0 to 3.0	1000	680	A-6500	2 to 6	2.3 to 3.5	1000	1400
BL-7000	3 to 10	2.6 to 5.0	1050	730	A-6500HT	3 to 10	2.6 to 5.0	500	690
BL-7000-HT	3 to 10	2.6 to 5.0	500	740	CL-7000	2 to 8	2.3 to 4.0	500	750
CL-2000	000 to 2	1.0 to 2.3	490	680	SS-7000	2 to 8	2.3 to 4.0	500	750
CL-3000	00 to 1	1.0 to 2.0	670	1000	CL-7000HT	2 to 8	2.3 to 4.0	330	550
SS-3000	00 to 1	1.0 to 2.0	670	1000	CL-9000	4 to 10	3.0 to 5.0	N/A	530
CL-4000	0 to 3	1.4 to 2.6	670	1000	CL-9000HT	4 to 10	3.0 to 5.0	N/A	530
SS-4000	0 to 2	1.4 to 2.3	690	1000	ACL-10	2 to 4	2.3 to 3.0		1500
A-4500	1 to 4	2.0 to 3.0	1000	1400	VZ-1820	3 to 8	2.6 to 4.0		2000†
A-5000	1 to 4	2.0 to 3.0	700	1000	VZ-3012	4 to 10	3.0 to 5.0		1200†
CL-6000	1 to 4	2.0 to 3.0	500	800	VZ-4506	2 to 10	2.0 to 5.0		600T
CL-6500	1 to 6	2.0 to 3.5	600	910					

* All fasteners are machine screws being placed into threaded holes. To determine self tapping screw sizes for a particular driver, use one screw size smaller than those listed above.

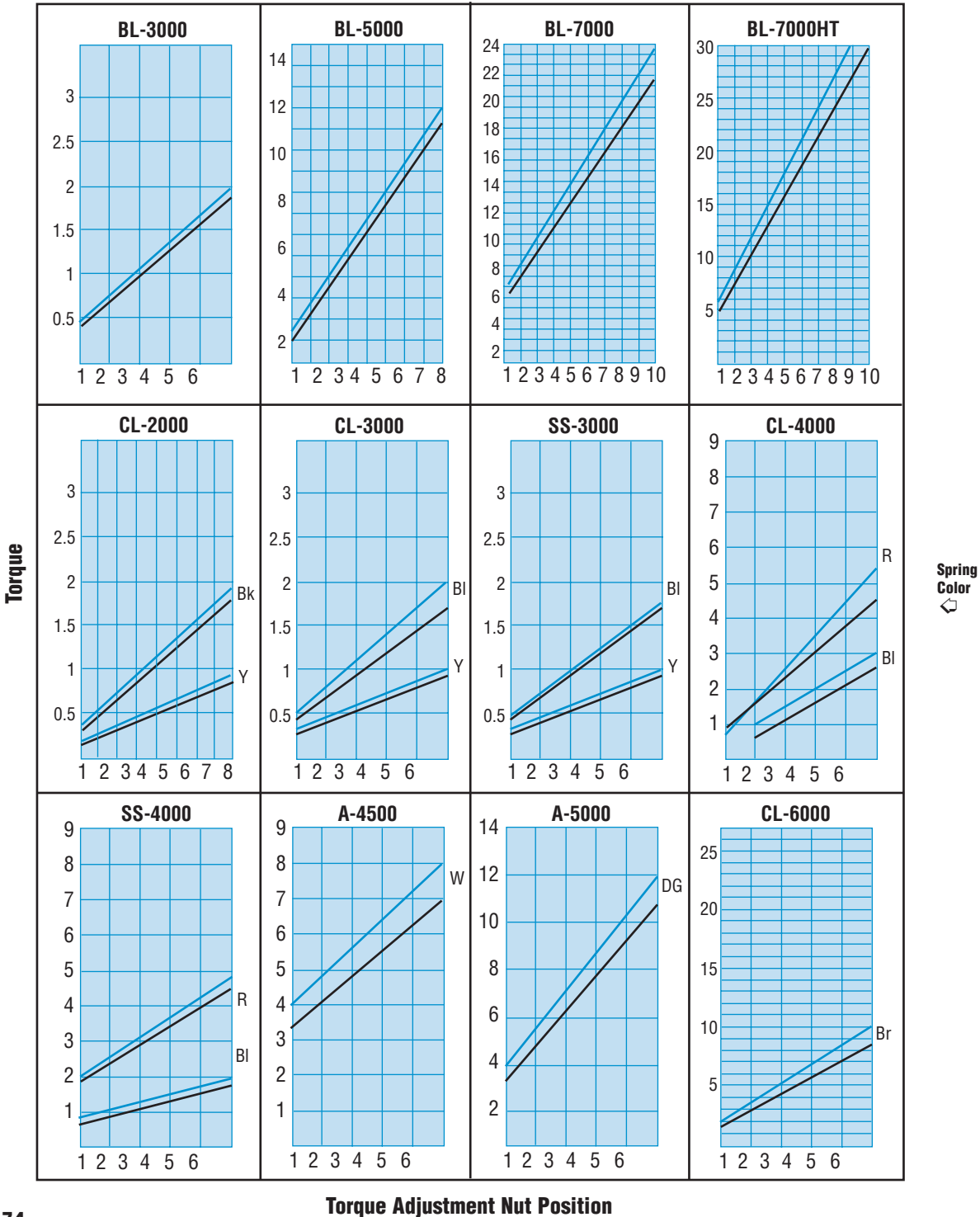
† At 110/120V, 120VAC

Quick Reference Torque Guide

These graphs are meant to be used as guidelines for setting the torque on the BL, CL, SS, Alpha and VZ series drivers. The drivers have a torque scale on the torque adjusting bolt

showing reference numbers. These numbers determine the approximate torque setting. Refer to the graphs to determine the reference number setting for your torque requirement.

Torque Graph: BL, CL, SS, VZ & Alpha Series Drivers (Continued on next page)

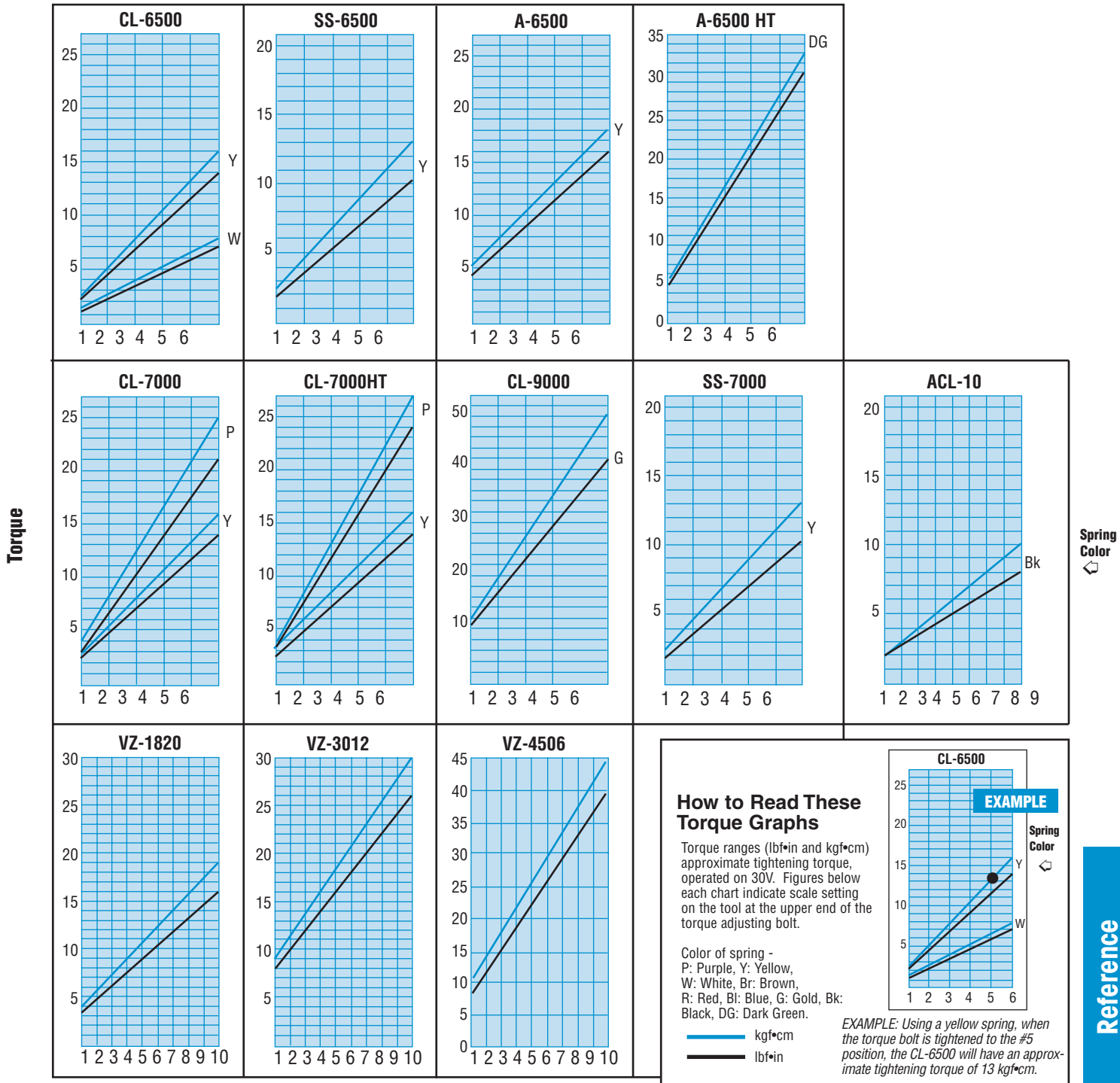


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These graphs are meant to be used as guidelines for setting the torque on the BL, CL, SS, Alpha and VZ series drivers. The drivers have a torque scale on the torque adjusting bolt

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Torque Graph: BL, CL, SS, VZ & Alpha Series Drivers (Continued from previous page)



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Who is ASG?

ASG is a division of Jergens, Inc., a sixty year old manufacturer of tooling components. Jergens originally introduced the torque-control electric driver to North America over 20 years ago. The drivers soon became a core product line for the ASG division. While the drivers continue to be ASG's core product, other complimentary products for light assembly have been added to ASG's product line. We are proud of the complete line of light-assembly products we have to offer; and continue to research new products to meet all your assembly needs.

ASG's goal is to provide the finest quality products and provide solutions to your assembly needs. Our in-house and field experts welcome the opportunity to solve your assembly challenges.

Technical Help and Engineering Changes... Call Us First

ASG maintains an experienced Technical Sales Department. For assembly line design, technical applications or trouble-shooting information call **(888) 486-6163**.

ASG products are continually re-engineered to keep up with changing production requirements. All specifications and data are subject to change without notice. If information is critical to an application, contact ASG's Technical Sales Department for current specifications.

Repairs and Calibration

Should an ASG product need service, contact ASG's Repair Department at (888) 486-6163 between 8:00 a.m. and 5:00 p.m. eastern time for return instructions.

ASG FACTORY REPAIR is located at:

ASG
Division of Jergens, Inc.
Jergens Way
15700 S. Waterloo Rd.
Cleveland, OH 44110
(888) 486-6163

Call ASG to obtain a repair number.

ASG WESTERN REPAIR STATION can repair drivers, transformers or screw feeders in or out of warranty. Contact:

ASSEMBLY TOOL SERVICE, INC.
3845 Rand Road
Auburn, CA 95602
(530) 885-3125

(Torque Testers must be returned to ASG Cleveland, Ohio for repair or calibration.)

Patent

All ASG CL, SS and Alpha Series tools are covered by U.S. Patent #4231270.

NEW FROM ASG



TS-III Qualifier™ Assembly Process Monitor and Error-Proofing System

- Value-engineered — suitable for any assembly operation
- Identifies cross-threaded, stripped or missing fasteners
- Has true error-proofing capability (can be de-activated if desired)
- Easy set-up with auto calibration

See page 40 for full information.



**No Assembly
Gremlins™
Allowed!**

The New Smart Torq™ II DC Brushless Driver Controller & Error-Proofer Takes the Fear Out of Assembly

- Stop shipping your assembly errors!
- Continually monitors the entire process for variation in fasteners, assembly tool performance, workpiece characteristics and missed fasteners
- Tremendously flexible. Provides multiple torque control to a single tool at the press of a button

See pages 38-39 for full information.



No Assembly GremlinsTM Allowed!

ASG provides the equipment that helps you assemble your products...with maximum productivity and consistency!

■ Torque Control Drivers

■ Process Verification

■ Automation Products

■ Production Aides

ASGTM

Products for Assembly

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