

delvo

GENERAL CATALOG



Selection Chart

	Page	Electric Screwdriver				Controller/Counter	
		Series	Model	Features	Starting Method	Model	Voltage
	5-6	7400A	DLV7410A/7410HA/7420A	Bit Grounding Low Shock ESD		DLC1110	100/115/220/ 230/240 V AC
			DLV7419A/7419HA/7429A	Bit Grounding Low Shock ESD Clean Room			
	7	5700	DLV5720/5720H/5740 DLV5740H/5750	Bit Grounding Low Shock ESD		DLC0350 DLC0950	100/115/230 V AC
	8	5800	DLV5820/5820H/5840	Bit Grounding ESD	Lever Start	DLC0350 DLC0250E	100 V AC
	9	7300	DLV7313/7323/7333	Low Voltage		DLC1213A	100/115/ 230/240 V AC
			DLV7325/7335	Clean Room			
	10	7300 -BME/ BKE	DLV7321-B□E DLV7331-B□E	ESD		DLC1213A-□□B	100/115/ 230/240 V AC
			DLV7319/7329/7339/7349-BME	Clean Room Low Shock ESD			

	11	7000	DLV7020/7030/7031	Transformerless	Lever Start		100/115 V AC
		8000	DLV8020/8030/8031		Push to Start		
	12	7104	DLV7124/7134/7144	Transformerless	Lever Start		230 V AC
		8104	DLV8124/8134/8144		Push to Start		
		8204	DLV8154	Transformerless High Torque	Push to Start		
	13-14	8204	DLV8224/8234/8244	Transformerless High Speed	Push to Start	DLC4511-GGB DLR1510-JE	230 V AC
		7500	DLV7530/7540 DLV7550	Torque Reach Light High Torque	Lever Start		
		8500	DLV8530/8540 DLV8550	Torque Reach Light High Torque	Push to Start		
	15	7100	DLV7120/7130/7140	Transformerless	Lever Start		115 V AC
		7200	DLV7221 DLV7231/7241 DLV7251	Transformerless High Speed Transformerless High Torque			
		8100	DLV8120/8130/8140 DLV8150	Transformerless High Torque	Push to Start		
		8200	DLV8221 DLV8231/8241 DLV8251	Transformerless High Speed Transformerless High Torque			

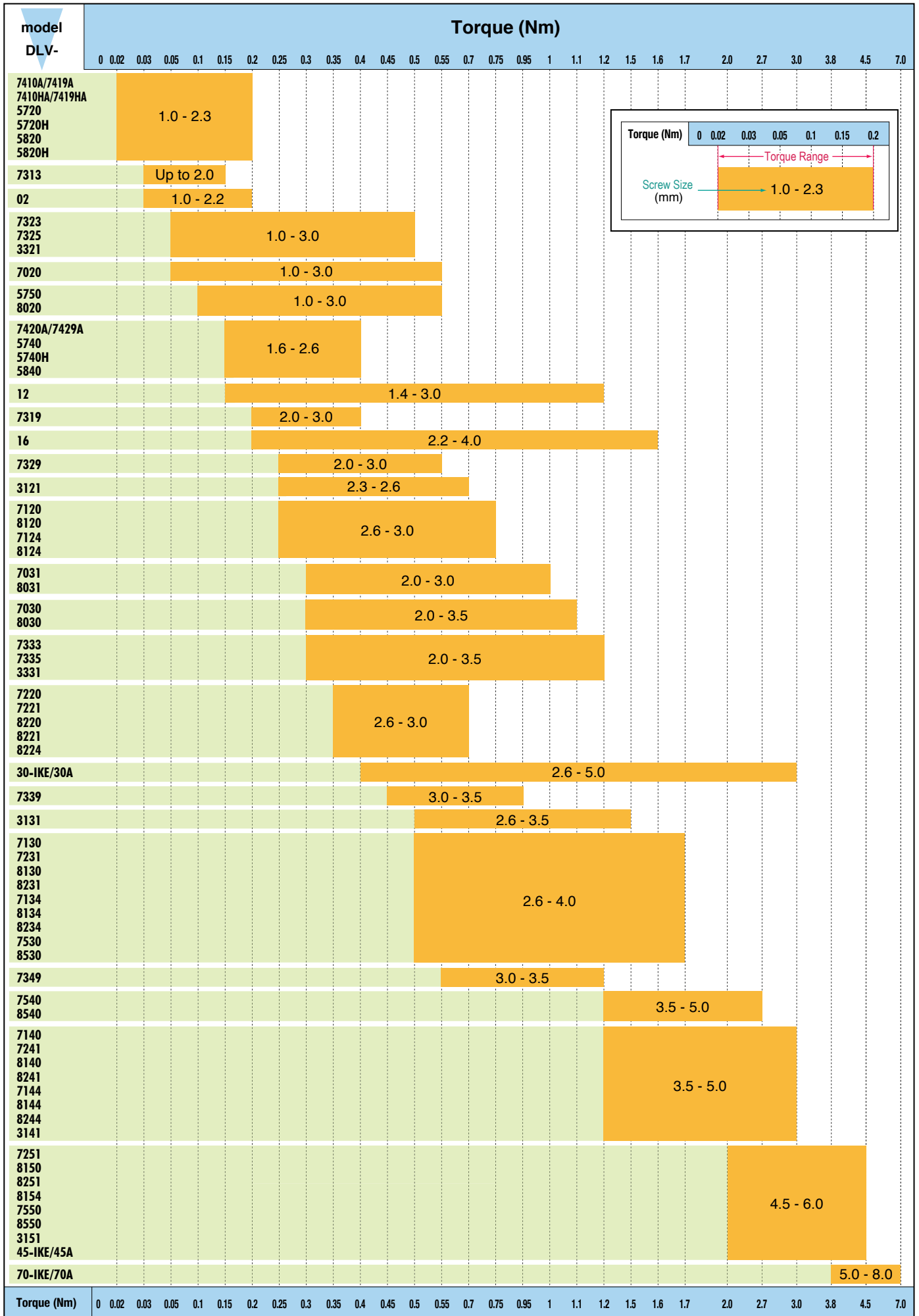
	17	02/12/16	DLV02/12/16	Brushless Motor ESD(BKE)	Lever Start	DLC16S-W□B	100 - 240 V AC
	18	A (30A/45A/70A)	DLV30A06L/30A12L/30A20L DLV30A06P/30A12P/30A20P	Transformerless Brushless Motor	Lever Start		230 V AC
			DLV45A06L/45A12L DLV45A06P/45A12P		Push to Start		
			DLV70A06L		Lever Start		
			DLV70A06P		Push to Start		

	19	30/45/70-IKE	DLV30LL/30SL/30HL-IKE DLV30LP/30SP/30HP-IKE	Low Voltage Brushless Motor	Lever Start	DLR70S-WGB DLC70S-WGB	100 - 240 V AC
			DLV45LL/45SL-IKE DLV45LP/45SP-IKE		Push to Start		
			DLV70LL-IKE DLV70LP-IKE		Lever Start		
					Push to Start		

	22	3300 (for Automation) 3100 (for Automation)	DLV3321/3331 DLV3121/3131/3141/3151	For Automation	External Input	DLC3310	24 V AC 100 V AC
	23-24	A (for Automation) (30A/45A/70A)	DLV30A□A-□(AA)J DLV45A□A-□(AA)K DLV70A06A-□(AA)K	Brushless Motor For Automation	External Input Signal		100 V AC

Selection Chart

■ This chart is for reference only.



Professional Tools for Assembling High-Technology Goods

NITTO KOHKI's "Delvo" Electric Screwdrivers are high-quality tools for professional use, with special emphasis on precise torque control and long life. They always apply just the correct amount of torque with accurate and positive control at your fingertips. They are smooth and shockless in operation, too. NITTO KOHKI's customer-oriented service system through our sales agents ensures that you can use Delvo Electric Screwdrivers with a high degree of reliability.

● Shockless

Sophisticated clutches and motor braking mechanism reduce the shock at the end of the screw tightening operation and causes less fatigue.

● Long Life

Motor brushes stand over a million tightening cycles. They can be replaced easily.

● Brushless motors are adopted.

They are eco-friendly, long life, and cover wide torque range.

● High Accuracy

High repeatable torque accuracy provides more consistent screw tightening torque.

● High Speed

High-speed torque motors cut down screw tightening time and enhance productivity.

● Safety Standards

Models with CE Marking (for the European Union) or CCC (for People's Republic of China) are available.

● Quieter

Compare Delvo with a conventional pneumatic screwdriver, and you will hear the difference.



Models for EU

DLV7410A/7419A/7410HA/7419HA/7420A/7429A-BME
DLV7313/7323/7333/7325/7335-CME/CKE
DLV7321/7331-BME/BKE
DLV7319/7329/7339/7349-BME
DLC1213A-GG/GGB/GGU
DLV7530/7540/7550-MKE/BKE
DLV8530/8540/8550-MKE/BKE
DLC4511-GGB/DLR1510-JE
DLC1110-GG/HE
DLV02/12/16
DLV30A/45A/70A-AB
DLV30/45/70-IKE
DLC70S/DLR70S-WGB
DLT1173A/1673A/1973A



Models for the People's Republic of China

DLV7321/7331-CMC
DLC1213-GC
DLV8124/8134/8144/8224/8234/8244/8154-MJC
DLV8124/8134/8144/8224/8234/8244/8154-MKC
DLV7124/7134/7144-MJC
DLV7124/7134/7144-MKC
DLV5820C/5820HC/5840C
DLV5720C/5720HC/5740C/5740HC/5750C
DLC0350GC/0950GC
DLV30/45/70-M□C
DLV30/45/70-SPC(M□C)
DLR5040A-WC
DLV30A/45A/70A-AC
DLV30A/45A/70A-SPC(AC)



Green Procurement

NITTO KOHKI has made every effort in environmental improvement schemes on a company-wide basis through the implementation of ISO14001 to execute environmentally conscious business activities. As a part of our ongoing commitment to improve the environment, we are also committed to exclude or reduce restricted chemical substances in our products, as designated by the RoHS directives and Laws and Regulations of Chemical Substances in Japan. For further details, please see the following:

Nitto Kohki group companies' Green Procurement Guidelines have been established by their environmental committee which consists of members from all the Nitto Kohki group of companies. Nitto Kohki group companies give preferential treatment to suppliers that work to an environmental policy framework. Nitto Kohki group companies periodically survey their suppliers to ensure their chemical management systems include the monitoring of environmental issues such as the RoHS directives, and Japanese laws and regulations of Chemical Substances to minimize packaging and waste. We are continuing our goal to ensure that our made-to-order items are also covered by our environmental policy.

Green Procurement Policy

Each of the Nitto Kohki group companies is clarifying the control categories of the environmental management substances included in the parts and auxiliary materials constituting Nitto Kohki products and those of the environmental management substances used in the manufacturing processes. We will promote prohibition and reduction of use of the environmental management substances according to such control categories. Through these activities, we will comply with various laws and regulations related to the environmental management substances and reduce the impact to the global environmental conservation and to the ecological system.

Scope of Application

Our Green Procurement Guideline applies to all materials, parts, products, and auxiliary materials which Nitto Kohki Group companies purchase for production or sales.

Our Green Procurement Activities

NITTO KOHKI group companies continually aim to comply with RoHS directives, and Japanese laws and regulations of Chemical Substances.

- Standard products have been RoHS compliant. Green procurement activities on made-to-order products are continuing.
- NITTO KOHKI group companies are now working to the REACH Regulation.
- NITTO KOHKI group companies are building a database of the chemical management substances regulated by the RoHS directives, the REACH Regulation and Japanese laws and regulations of Chemical Substances.

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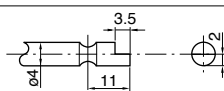
Features

The light and compact body reduces operator fatigue

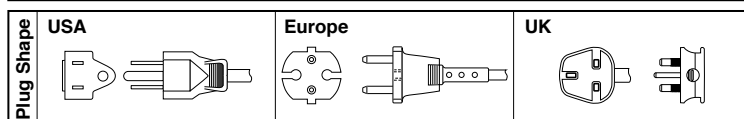
- Reduces shock applied to workpieces when fastening screws
- ESD (electrostatic discharge) protection compliant with IEC61340-5-1
- Lightweight (Standard type 230 g, Clean room type 275 g)
- The Clean Room Type complies with Class 3 Clean Room Rating
- The controller can adjust speed
(Screw-fastening speed can be set to suit specific fastening conditions)
- The controller provides a soft start function
- The initial speed at screwdriver startup can therefore be slowed down, effectively preventing screw heads from being scratched
- The built-in coreless motor achieves reduced inertia
- Torque accuracy is within a top-ranked worldwide level (Based on measurements at our laboratory)
- Compliant with CE standards
- Use of the Screw Fastening Counter prevents human fastening errors and enhances accurate fastening control (No CE marking or CCC applied)
- Screw Fastening Counter Model DLR5640-WN works in conjunction with any dedicated SPC-type electric screwdrivers



Specifications

Model	Standard Type	DLV7410A-BME	DLV7410HA-BME	DLV7420A-BME	
	Clean Room Type	DLV7419A-BME	DLV7419HA-BME	DLV7429A-BME	
Electric Screwdriver	Starting Method	Lever Start			
	Input Voltage	40 V DC			
	Torque Adjustment	Stepless			
	Torque (Nm)	0.02 - 0.2			
	Free Speed (min ⁻¹)	500 - 750	700 - 1000		0.15 - 0.4
	Power Consumption (W)	Approx. 10			
	Screw Size (mm)	Machine Screw	1.0 - 2.3		1.6 - 2.6
		Tapping Screw	1.0 - 2.0		1.4 - 2.3
	Bit Type (mm)				
	Mass (g)	Standard type 230 / Clean room type 275			

Model	DLC1110-EN	DLC1110-FE	DLC1110-GE	DLC1110-GG	DLC1110-HE	DLC1213A-GGB*1	DLC1213A-HEB*1	
Features	Standard	Standard	Standard	With CE Mark	With CE Mark	With CE Mark	Standard	
Input Voltage	100 V AC, 50/60 Hz	115 V AC, 50/60 Hz	220 V AC, 50/60 Hz	230 V AC, 50/60 Hz	240 V AC, 50/60 Hz	230 V AC, 50/60 Hz	240 V AC, 50/60 Hz	
Control Function	Soft Start, Speed Control, ESD Protected							
Plug Shape	USA	USA	UK	Europe	UK	Europe	UK	
Mass (g)	900						2300	



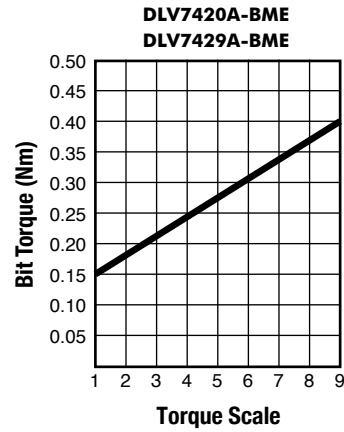
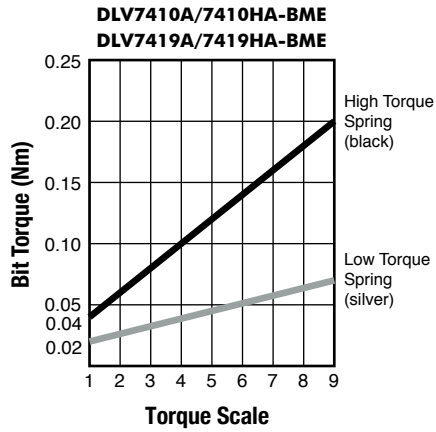
*1: An optional cord is required to connect with this model.
Neither DLC1213A-GG nor DLC1213A-HE can be used with the DLV7400A series.

Model DLC1213A-GGB or DLC1213A-HEB + Cord DLW9072

Standard Accessories

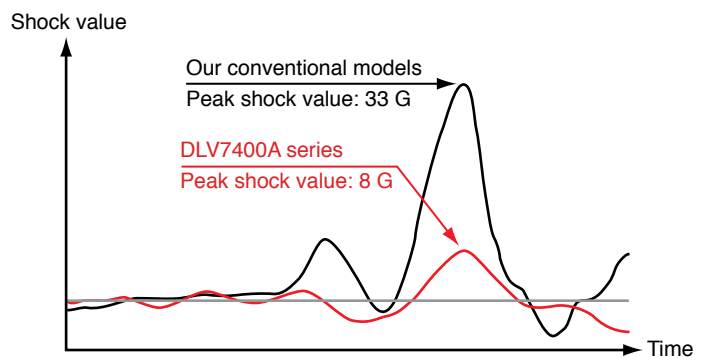
Bit	No.	DLV7410A	DLV7410HA	DLV7420A	DLV7419A	DLV7419HA	DLV7429A
Bit	No.0 × 1.8 × 44	1	1	-	1	1	-
	No.0 × 2.5 × 44	1	1	1	1	1	1
	No.1 × 4 × 44	-	-	1	-	-	1
Connection Cable DLW9070	1	1	1	1	1	1	1
Spring for Low Torque	1	1	-	1	1	-	-
Suspension Bail	1	1	1	1	1	1	1
Sleeve for Vacuum DLS2124	-	-	-	1	1	1	1

Torque Diagrams (for reference)



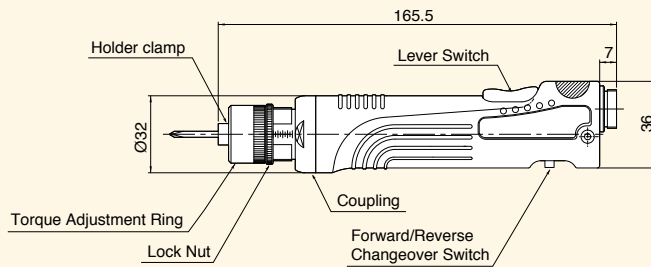
Shock Waveform Comparison between the 7400A series and our conventional models

Value of shock applied to the workpiece as measured using acceleration pickup.

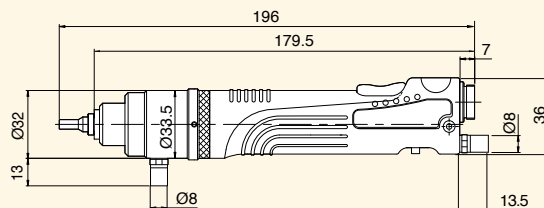


External Dimensions

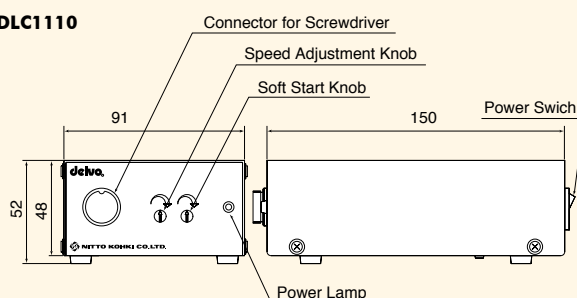
● DLV7410A/7410HA/7420A-BME



● DLV7419A/7419HA/7429A-BME



● DLC1110

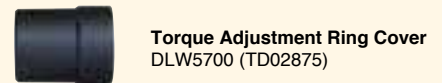


Unit: mm

Optional Accessories



* Please see page 33 for details.



This minimizes tampering or accidental turning of the torque adjustment ring once the torque is set.

Delvo DLV5700 series Non-CE

■ For Miniature Screws (1.0 - 3.0 mm)

Features

For quality improvement and productivity enhancement

- Grounded bit installation mechanism
- Electro-static discharge (ESD) control
- Low-shock for tightening (30 % less of standard models)
- Low swing bit mechanism
- Ergonomic design
- High-performance DC motor
- New clutch mechanism



DLV5720/5720H/5740

DLC0350

DLV5740H/5750

DLC0950

Specifications

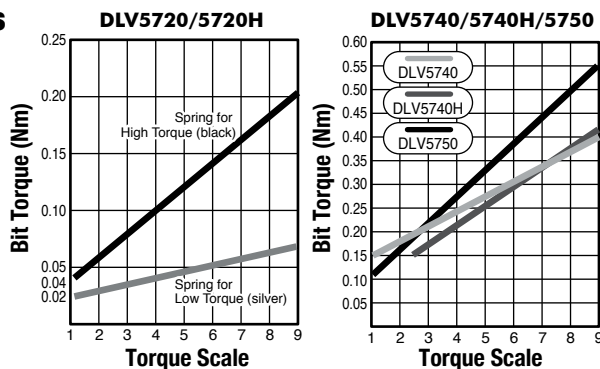
Model		DLV5720	DLV5720H	DLV5740	DLV5740H	DLV5750	
Electric Screwdriver	Starting Method				Lever Start		
	Input Voltage	40 V DC			36 V DC		
	Torque Adjustment				Stepless		
	Torque (Nm)	0.02 - 0.2			0.15 - 0.4		
	Free Speed (min ⁻¹)	500 - 750			450 - 600		
	Power Consumption (W)	Approx. 10			Approx. 35		
	Screw Size (mm)	Machine Screw	1.0 - 2.3			1.6 - 2.6	
		Tapping Screw	1.0 - 2.0			1.4 - 2.3	
	Bit Type (mm)						
	Mass (g)	230			300		

Model		DLC0350E	DLC0350F	DLC0350G	DLC0950E	DLC0950G
Controller	Input Voltage	100 V AC, 50/60 Hz	115 V AC, 50/60 Hz	230 V AC, 50/60 Hz	100 V AC, 50/60 Hz	230 V AC, 50/60 Hz
	Plug Shape	USA 		UK 	USA 	
	Mass (g)	900			1800	

Standard Accessories

No.		DLV5720	DLV5720H	DLV5740	DLV5740H	DLV5750
Bit	No.0 × 1.8 × 44	1			-	
	No.0 × 2.5 × 44	1			1	
	No.1 × 4 × 44	-			1	
Connection Cable (1.5 m)DLW9081		1			1	
Suspension Bail		1			1	
Spring for Low Torque		1			-	

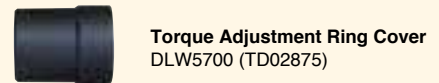
Torque Diagrams (for reference)



Optional Accessories



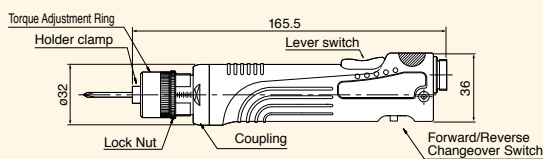
* Please see page 33 for details.



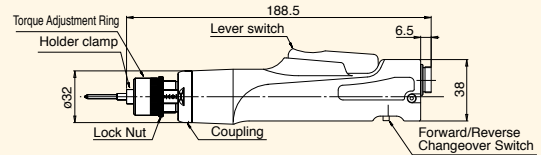
This minimizes tampering or accidental turning of the torque adjustment ring once the torque is set.

External Dimensions

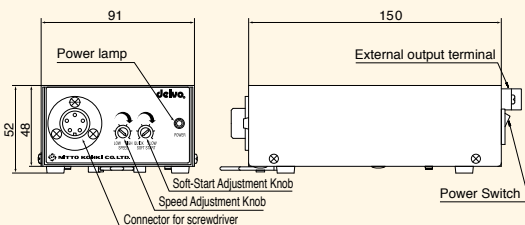
•DLV5720/5720H/5740



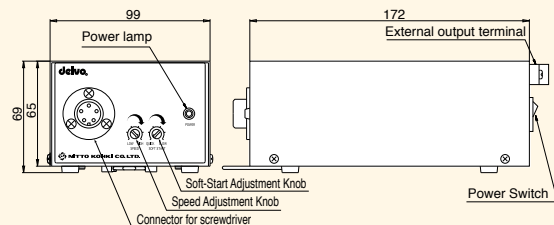
•DLV5740H/5750



•DLC0350



•DLC0950



Unit: mm

Delvo DLV5800 series Non-CE

■ For Miniature Screws (1.0 - 2.6 mm)

Features

In response to the needs of cell production system space-saving DELVO screwdrivers are released.

Controller is designed for emphasis on space-saving size and lightness.

- Clear disengagement of clutch (low-shock mechanism unavailable)
- Grounded bit installation mechanism
- ESD (electrostatic discharge) protection
- New lever is adopted
- Low swing bit mechanism
- Low voltage transless controller

DLV5820/5820H/5840



DLC0250E



DLC0350

Specifications

Model		DLV5820	DLV5820H	DLV5840	
Electric Screwdriver	Starting Method	Lever Start			
	Input Voltage	40 V DC			
	Torque Adjustment	Stepless			
	Torque (Nm)	0.02 - 0.2		0.15 - 0.4	
	Free Speed (min ⁻¹)	750	1000	600	
	Power Consumption (W)	Approx. 10			
	Screw Size (mm)	Machine Screw	1.0 - 2.3		1.6 - 2.6
		Tapping Screw	1.0 - 2.0		1.4 - 2.3
	Bit Type (mm)				
	Mass (g)	230			
Cord Length (m)	1.5 (with connector)				
Grounding Bit Feature	Equipped as standard				

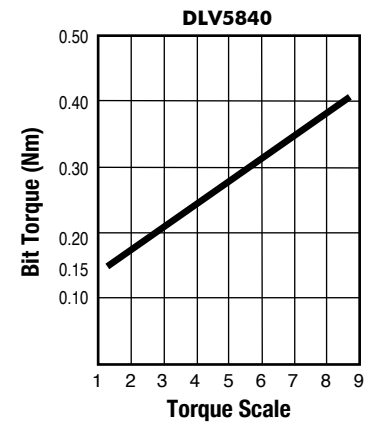
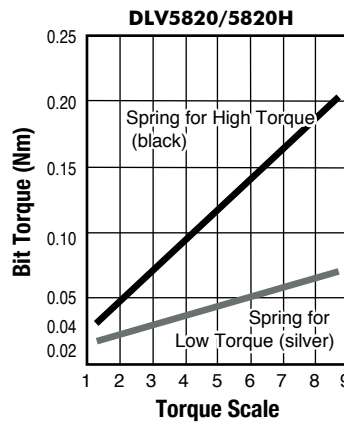
Model		DLC0250E
Input Voltage	100 V AC, 50/60 Hz	
Function	Grounded Bit Installation Mechanism	
Mass (g)	300	
Plug Shape	USA	
Case Material	Antistatic material	

* Electric screwdrivers DLV5800 series can be also used with DLC0350.

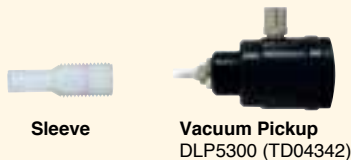
Standard Accessories

Bit	No.	DLV5820	DLV5820H	DLV5840
No.0 × 1.8 × 44	1	1	-	-
No.0 × 2.5 × 44	1	1	-	1
No.1 × 4 × 44	-	-	1	1
Suspension Bail	1	1	1	1
Connection Cable (1.5 m)	1	1	1	1
Spring for Low Torque (Silver)	1	1	-	-

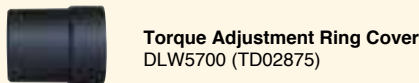
Torque Diagrams (for reference)



Optional Accessories



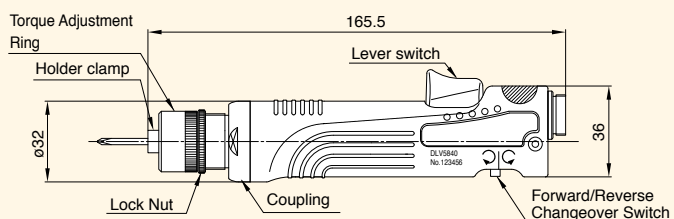
* Please see page 33 for details.



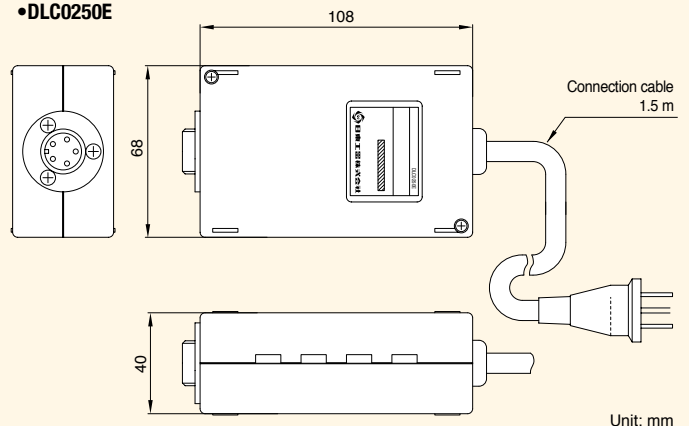
This minimizes tampering or accidental turning of the torque adjustment ring once the torque is set.

External Dimensions

•DLV5820/5820H/5840



•DLC0250E



Unit: mm

Delvo DLV7300 series

■ For Miniature Screws (1.0 - 3.5 mm)

Features

- The dedicated controller realizes high-accuracy screw tightening
- High repeatable torque accuracy
- The controller provides a soft start function. The initial speed at screwdriver startup can therefore be slowed down, effectively preventing screw heads from being scratched.
- Variable speed adjustment enables to select optimum screw tightening speed.
- DLV7325, DLV7335 meet Class 5*1 Clean Room standards

*1: Based on Nitto Kohki's standard of measurement



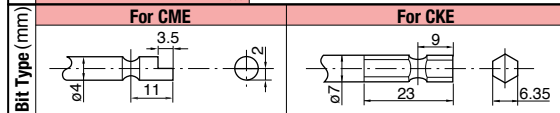
DLV7313/7323/7333

DLV7325/7335

DLC1213A

Specifications

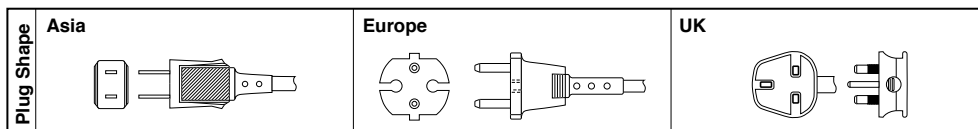
		Standard			Clean Room Use	
Model	Bit Shank: $\varnothing 4$ mm	DLV7313-CME	DLV7323-CME	DLV7333-CME	DLV7325-CME*2	DLV7335-CME*2
	Bit Shank: Hex.6.35 mm		DLV7323-CKE	DLV7333-CKE	DLV7325-CKE	DLV7335-CKE
Starting Method	Lever Start					
Input Voltage	36 V DC					
Torque Adjustment	Stepless					
Torque (Nm)	0.03 - 0.15	0.05 - 0.5	0.3 - 1.2	0.05 - 0.5	0.3 - 1.2	
Free Speed (min ⁻¹)	700 - 1000		500 - 700	700 - 1000	500 - 700	
Power Consumption (W)	Approx. 35					
Screw Size (mm)	Machine Screw	Up to 2.0	1.0 - 3.0	2.0 - 3.5	1.0 - 3.0	2.0 - 3.5
	Tapping Screw	Up to 1.7	1.2 - 2.6	2.0 - 3.0	1.2 - 2.6	2.0 - 3.0
Mass (g)	350			400		



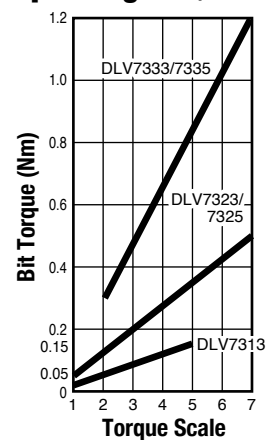
*2: Vacuum pump for suction of screw is available as option. See page 31 for details of the vacuum pump.

Model	Features	Input Voltage	Control Function	Plug Shape	Mass(g)
DLC1213A-EN	Standard	100 V AC, 50/60 Hz	Soft start, Speed control	Asia	2300
DLC1213A-FE*3	Standard	115 V AC, 50/60 Hz		UK	
DLC1213A-GE	Standard	220 V AC, 50/60 Hz		Europe	
DLC1213A-GG	With CE Mark	230 V AC, 50/60 Hz		UK	
DLC1213A-GGU	With CE Mark	230 V AC, 50/60 Hz		Without Plug	
DLC1213A-HE	Standard	240 V AC, 50/60 Hz			

*3: This model is made to order.



Torque Diagram (for reference)



Standard Accessories

	No.	DLV7313 -CME	DLV7323 -CME	DLV7333 -CME	DLV7323 / 31 / 33-CKE	DLV7325 -CME	DLV7335 -CME	DLV7325 / 35-CKE
Bit	No.0 x 1.8 x 44	1	—	—	—	—	—	—
	No.0 x 2.5 x 44	1	1	—	—	1	—	—
	No.1 x 3 x 44	—	—	1	—	—	1	—
	No.1 x 4 x 44	—	1	—	—	1	—	—
	No.1 x 7 x 50	—	—	—	1	—	—	—
	No.2 x 4 x 44	—	—	1	—	—	1	—
	No.2 x 4.5 x 50	—	—	—	—	—	—	1
Sleeve	No.2 x 7 x 50	—	—	—	1	—	—	—
	DLS2124	—	—	—	—	1	—	—
	DLS2127	—	—	—	—	1	1	—
	DLS2130	—	—	—	—	1	1	—
	DLS2134	—	—	—	—	—	1	—
DLS2135	—	—	—	—	—	—	1	
Suspension Bail				1				

Optional Accessories

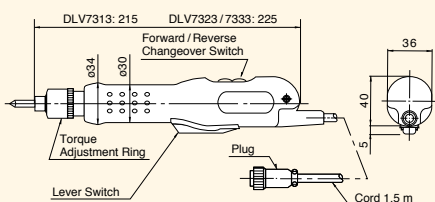


Torque Adjustment Ring Cover for DLV7303 DLW5500 (TD00333)

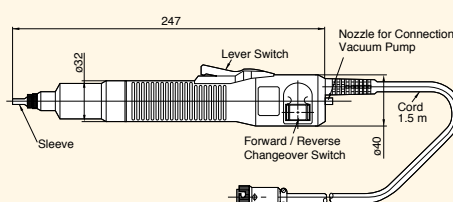
This minimizes tampering or accidental turning of the torque adjustment ring once the torque is set.

External Dimensions

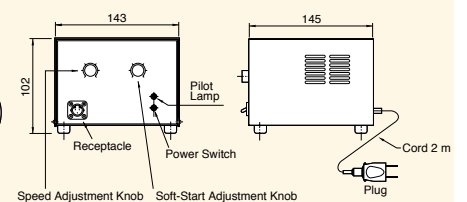
•DLV7313/7323/7333



•DLV7325/7335



•DLC1213A



Unit: mm

Delvo DLV7300-BME/BKE series ■ For Miniature Screws (1.0 - 3.5 mm)

Features

Workpiece-conscious electric screwdrivers

- Statistic electricity buildup is prevented to protect workpieces from electrostatic discharge
- Minimal impact in screw tightening protects workpieces from damaging and enables stable screw tightening
- ESD (electrostatic discharge) protection compliant with IEC61340-5-1
- Meet Class 5*1 or more Clean Room standards

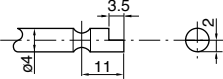
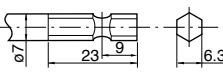
*1: Based on Nitto's standard of measurement



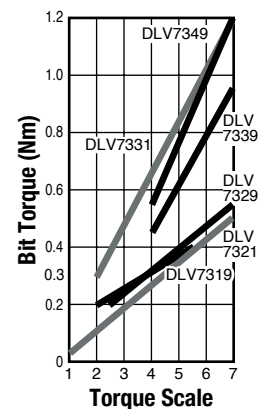
DLV73□9-BME

DLC1213A-□□B

Specifications

		ESD		ESD / Low Shock				
Electric Screwdriver	Model	Bit Shank: ø4 mm Bit Shank: Hex. 6.35 mm	DLV7321-BME*2	DLV7331-BME*2	DLV7319-BME*2	DLV7329-BME*2	DLV7339-BME	DLV7349-BME*2
	Starting Method		Lever Start					
	Input Voltage		36 V DC					
	Torque Adjustment		Stepless					
	Torque (Nm)		0.05 - 0.5	0.3 - 1.2	0.2 - 0.4	0.25 - 0.55	0.45 - 0.95	0.55 - 1.2
	Free Speed (min ⁻¹)		700 - 1000	500 - 700	700 - 1000		500 - 700	
	Power Consumption (W)		Approx. 35					
	Screw Size (mm)	Machine Screw	1.0 - 3.0	2.0 - 3.5	2.0 - 3.0		3.0 - 3.5	
		Tapping Screw	1.2 - 2.6	2.0 - 3.0	2.0 - 2.6		2.6 - 3.0	
	Bit Type (mm)	For BME						
	For BKE							
Mass (g)		350			400			

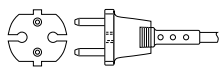
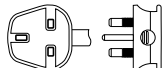
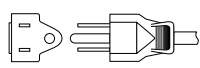
Torque Diagram (for reference)



*2: These models are made to order.

Controller	Model	Features	Input Voltage	Plug Shape	Control	Mass(g)
	DLC1213A-ENB	Standard	100 V AC, 50/60 Hz	USA	Grounding, Soft Start, Speed Control	2300
	DLC1213A-FEB*3	Standard	115 V AC, 50/60 Hz	USA		
	DLC1213A-GGB	With CE mark	230 V AC, 50/60 Hz	Europe		
	DLC1213A-HEB	Standard	240 V AC, 50/60 Hz	UK		

*3: This model is made to order.

Plug Shape	Europe	UK	USA
			

Measurement Point		Conventional Product	DLV7300-B□E
Handle	Static Electricity (V)	350	5
	Surface Resistance (Ω)	more than 10 ¹³	10 ⁴
Lever Switch	Static Electricity (V)	350	2
	Surface Resistance (Ω)	more than 10 ¹³	10 ⁴
Forward / Reverse Switch	Static Electricity (V)	25	2
Power Cable	Static Electricity (V)	110	5
	Surface Resistance (Ω)	more than 10 ¹³	10 ¹⁰

Part	Material
Handle Lever Switch	Synthetic resin with carbon fiber
Power Cable	Anti-static material

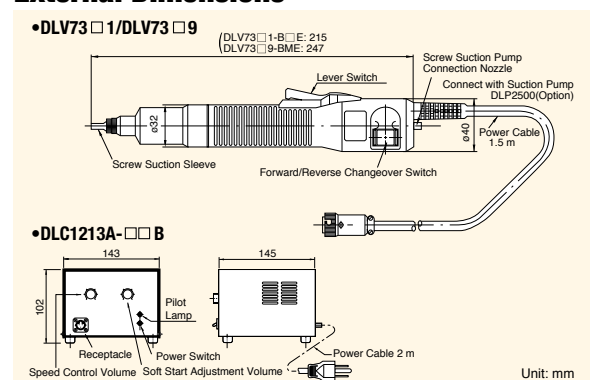
* Measurement conditions (Temperature: 22 °C Humidity: 66 %)

- (1) Static electricity ● Earth the measurement equipment and measuring person.
 ● Grip the screwdriver five times using Ansel Edmont electronic control glove.
 ● Turn on the switch of the screwdriver. ● Measure each part of the screwdriver using electronic measurement equipment manufactured by Shishido electrostatic Ltd.
 (2) Surface resistance ● Measure using Simco Japan surface resistivity measurement equipment.

Standard Accessories

	No.	DLV7319/29-BME	DLV7339/49-BME	DLV7321-BME	DLV7331-BME	DLV7321/31-BKE
Bit	No.0 x 2.5 x 44	1	—	1	—	—
	No.1 x 3 x 44	—	1	—	1	—
	No.1 x 4 x 44	1	—	1	—	—
	No.1 x 7 x 50	—	—	—	—	1
	No.2 x 4 x 44	—	1	—	1	—
	No.2 x 7 x 50	—	—	—	—	1
Sleeve	DLS2124	1	—	—	—	—
	DLS2127	1	1	—	—	—
	DLS2130	1	1	—	—	—
	DLS2134	—	1	—	—	—
Suspension Bail		1				

External Dimensions



Delvo DLV7000/8000 series Non-CE ■ For Miniature Screws (1.0 - 3.5 mm)

Features

100 / 115 V AC Direct Transformerless Precision Miniature Screw Type

- A built-in controller model saves space and facilitates layout change
- High repetitive torque accuracy
- Available with lever type (DLV7000 series) for each screw alignment and push to start type (DLV8000 series) for rapid screw tightening
- The high-speed type (DLV7031/8031) available at 1200 min⁻¹ for improving work efficiency (100 V AC only)



DLV7000 series

DLV8000 series

Specifications

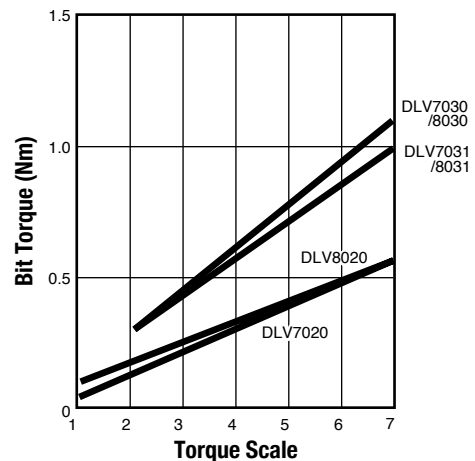
		Standard				High Speed	
Model	100 V AC Input	DLV7020-EMN	DLV7030-EMN	DLV8020-EMN	DLV8030-EMN	DLV7031-EMN	DLV8031-EMN
	115 V AC Input	DLV7020-FME*1	DLV7030-FME*1	DLV8020-FME*1	DLV8030-FME*1		
Starting Method		Lever Start		Push to Start		Lever Start	Push to Start
Torque Adjustment		Stepless					
Torque (Nm)		0.05 - 0.55	0.3 - 1.1	0.1 - 0.55	0.3 - 1.1	0.3 - 1.0	
Free Speed (min ⁻¹)		900	650	900	650	1200	
Power Consumption (W)		Approx. 25				Approx. 30	
Screw Size (mm)	Machine Screw	1.0 - 3.0	2.0 - 3.5	1.0 - 3.0	2.0 - 3.5	2.0 - 3.0	
	Tapping Screw	1.2 - 2.6	2.0 - 3.0	1.2 - 2.6	2.0 - 3.0	2.0 - 3.0	
Bit Type (mm)							
Mass (g)		400		410		400	410
Plug Shape (EMN/FME type)		Asia					

*1: These models are made to order.

Standard Accessories

	No.	DLV7020 / 8020	DLV7030 / 8030 / 7031 / 8031
Bit	No.0 x 2.5 x 44	1	-
	No.1 x 3 x 44	-	1
	No.1 x 4 x 44	1	-
	No.2 x 4 x 44	-	1
Suspension Bail		1	

Torque Diagram (for reference)



Optional Accessories

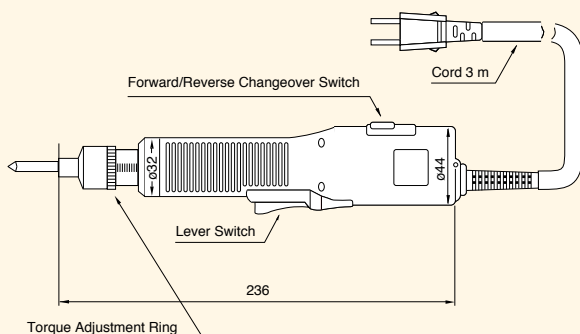


Torque Adjustment Ring Cover
DLW5300 (TD00332)

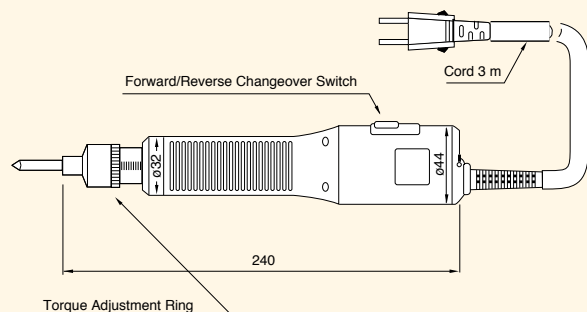
This minimizes tampering or accidental turning of the torque adjustment ring once the torque is set.

External Dimensions

•DLV7020/7030/7031



•DLV8020/8030/8031



Unit: mm

Delvo DLV7104/8104/8204 series Non-CE ■ For Machine Screws (2.6 - 6.0 mm)

Features

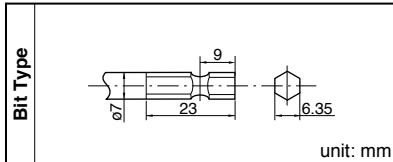
The most popular models have been redesigned

- Equipped with bit grounding mechanism
- Long-life cam is utilized
- The clear plastic torque adjustment ring cover minimizes unintentional tampering of the preset torque
- The changeover switch enables operators to change forward/reverse rotation with a single hand
- The ergonomically designed grip can be held tightly to resist against tightening reaction force, resulting in reduced operator fatigue

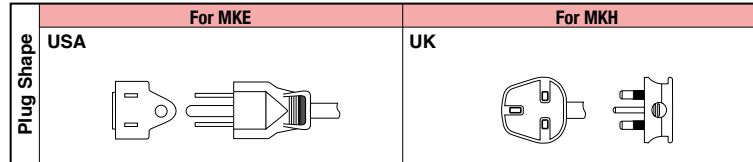


Specifications

Model	Standard						High Torque	High Speed			
	DLV7124-MKE	DLV7134-MKE	DLV7144-MKE	DLV8124-MKE	DLV8134-MKE	DLV8144-MKE	DLV8154-MKE	DLV8224-MKE	DLV8234-MKE	DLV8244-MKE	
Starting Method	Lever Start						Push to Start				
Input Voltage	230 V AC, 50/60 Hz										
Torque Adjustment	Stepless										
Torque (Nm)	0.25 - 0.75	0.5 - 1.7	1.2 - 3.0	0.25 - 0.75	0.5 - 1.7	1.2 - 3.0	2.0 - 4.5	0.35 - 0.7	0.5 - 1.7	1.2 - 3.0	
Free Speed (min ⁻¹)	900		600	900		600	400	2000	1800	1100	
Power Consumption (W)	35						45				
Screw Size (mm)	Machine Screw	2.6 - 3.0	2.6 - 4.0	3.5 - 5.0	2.6 - 3.0	2.6 - 4.0	3.5 - 5.0	4.5 - 6.0	2.6 - 3.0	2.6 - 4.0	3.5 - 5.0
	Tapping Screw	2.3 - 3.0	2.3 - 3.5	3.0 - 4.0	2.3 - 3.0	2.3 - 3.5	3.0 - 4.0	4.5 - 5.0	2.3 - 3.0	2.3 - 3.5	3.0 - 4.0
Mass (g)	720			710			910	710			



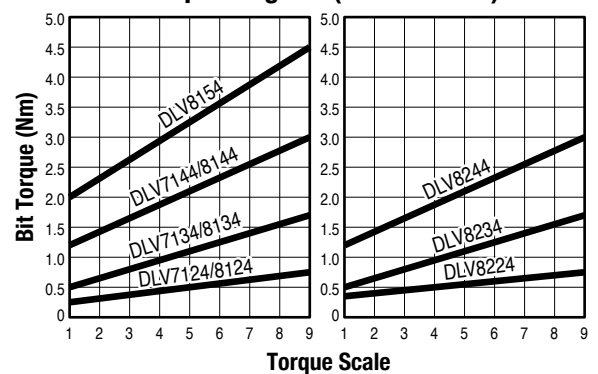
Please contact us for 5 mm bit type.



Standard Accessories

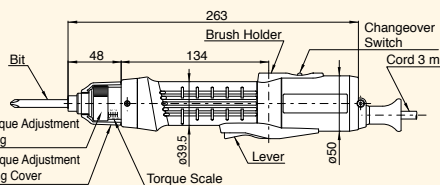
For MKE/MKH	• Bit No.1 × 7 × 75: 1 pc.	• Spare Carbon Brush: 2 pcs.
	• Bit No.2 × 7 × 75: 1 pc.	• Suspension Bail: 1 pc.
For 8154-MKE/MKH	• Bit No.2 × 7 × 75: 1 pc.	• Spare Carbon Brush: 2 pcs.
	• Bit No.3 × 7 × 50: 1 pc.	• Suspension Bail: 1 pc.

Torque Diagram (for reference)

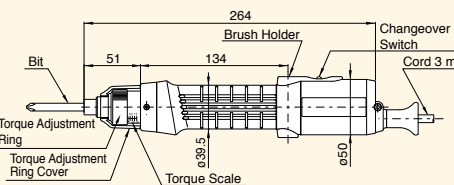


External Dimensions

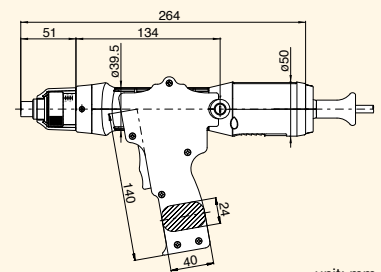
•DLV7124 / 7134 / 7144



•DLV8124 / 8134 / 8144 / 8224 / 8234 / 8244



•DLV8154



unit: mm

Delvo DLV7500/8500 series

■ For Machine Screws (2.6 - 6.0 mm)

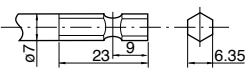
Features

Low vibration, low noise, and easy gripping in a compact design

- The easily visible torque reach light goes on when the set torque is reached
- The combination of an advanced clutch design and the auto-stop circuit assures torque accuracy
- The long life motor with a yoke made of advanced materials further assures a long service life
- Compliant with CE standard
- ESD (electrostatic discharge) protection compliant with IEC61340-5-1 (BKE models)



Specifications

Model	Standard	Standard		High Torque	Standard		High Torque
	ESD	DLV7530-MKE	DLV7540-MKE	DLV7550-MKE	DLV8530-MKE	DLV8540-MKE	DLV8550-MKE
Starting Method		Lever Start			Push to Start		
Input Voltage		59 V DC					
Torque Adjustment		Stepless					
Torque (Nm)		0.5 - 1.7	1.2 - 2.7	2.0 - 4.5	0.5 - 1.7	1.2 - 2.7	2.0 - 4.5
Free Speed (min ⁻¹)		1100	700	500	1100	700	500
Screw Size (mm)	Machine Screw	2.6 - 4.0	3.5 - 5.0	4.5 - 6.0	2.6 - 4.0	3.5 - 5.0	4.5 - 6.0
	Tapping Screw	2.3 - 3.5	3.0 - 4.0	4.0 - 5.0	2.3 - 3.5	3.0 - 4.0	4.0 - 5.0
Bit Type (mm)							
Mass (g)		650		750	650		750

Measurement point	Conventional product	DLV7500/8500-BKE	
Handle	Static Electricity (V)	350	5
	Surface Resistance (Ω)	more than 10 ¹³	10 ⁴
Lever Switch	Static Electricity (V)	350	2
	Surface Resistance (Ω)	more than 10 ¹³	10 ⁴
Forward / Reverse Switch	Static Electricity (V)	25	2
Connection Cable	Static Electricity (V)	110	5
	Surface Resistance (Ω)	more than 10 ¹³	10 ¹⁰

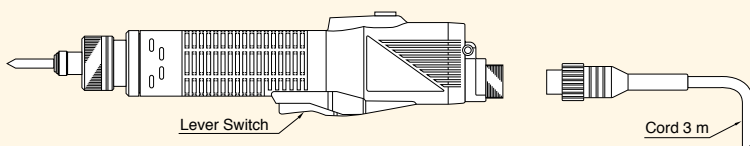
Part	Material
Handle Lever Switch	Synthetic resin with carbon fiber
Connection Cable	Anti-static material

* Measurement conditions (Temperature: 22 °C Humidity: 66 %)

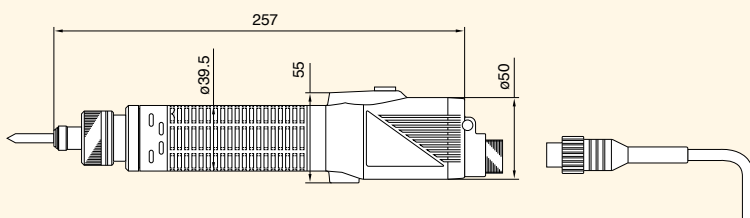
- (1) Static electricity • Earth the measurement equipment and measuring person.
 • Grip the screwdriver five times using Ansel Edmont electronic control glove.
 • Turn on the switch of the screwdriver. • Measure each part of the screwdriver using electronic measurement equipment manufactured by Shishido electrostatic Ltd.
 (2) Surface resistance • Measure using Simco Japan surface resistivity measurement equipment.

External Dimensions

DLV7500 series

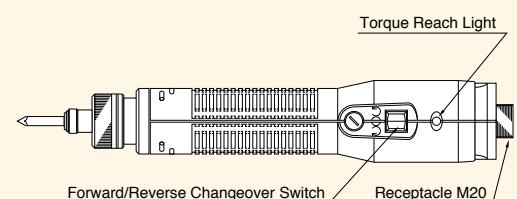


DLV8500 series



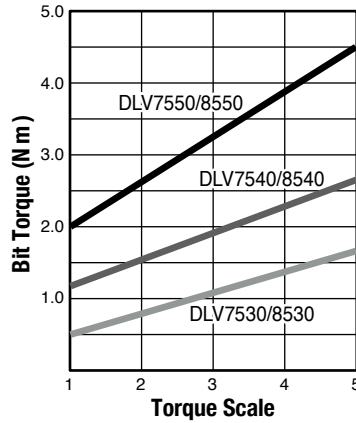
Standard Accessories

Bit	No.	DLV7530 / 7540 / 8530 / 8540	DLV7550 / 8550
Bit	No.1 × 7 × 75	1	-
	No.2 × 7 × 75	1	1
	No.3 × 7 × 50	-	1
Spare Carbon Brush			2
Connection Cable			1
Suspension Bail			1



Unit: mm

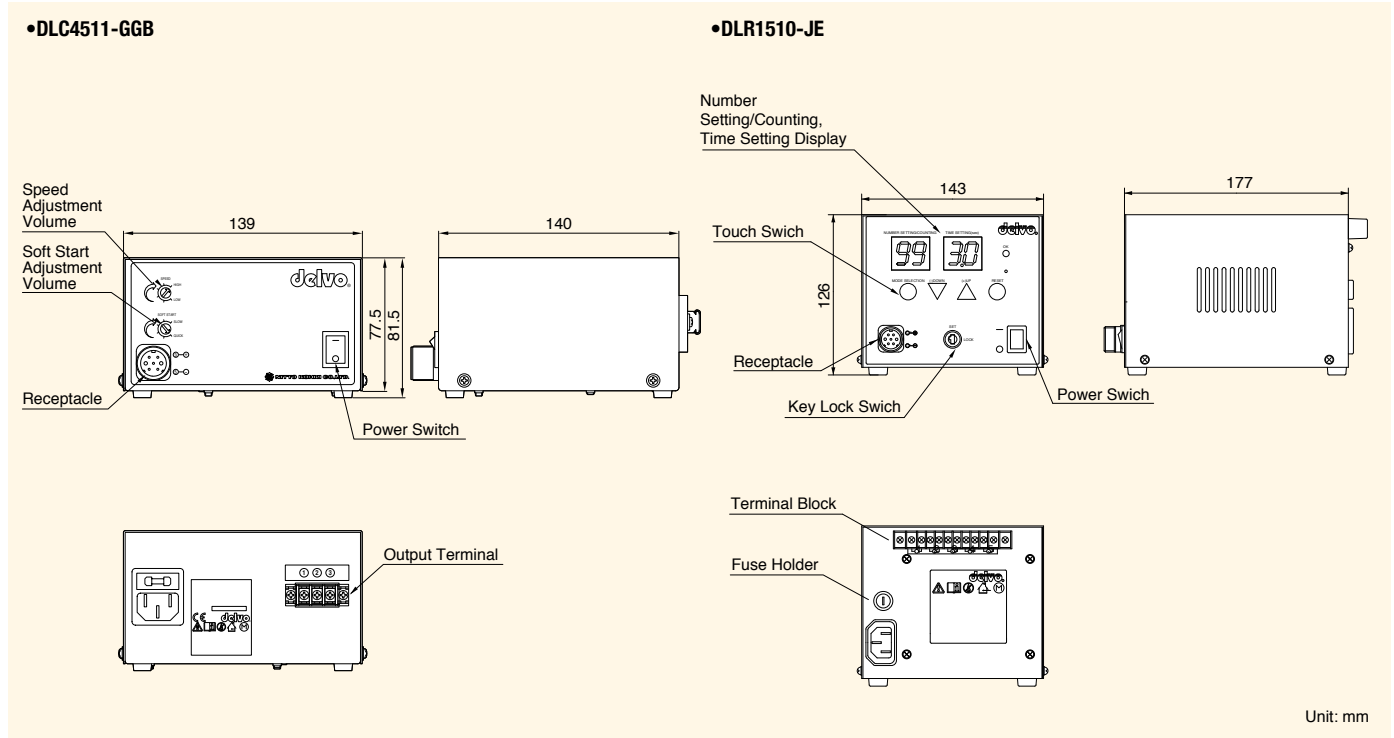
Torque Diagram (for reference)



Specifications

Model	DLC4511-GGB	DLR1510-JE
Function	Stepless speed adjustment 80 - 100 % Soft start: adjustable time setting of slow speed (max. 3 sec.) External output signals: start and torque up Electro-static discharge(ESD) control	Screw counting: OK lamp and buzzer for notification Variable non-operation time Setting protection by key lock switch Setting by touch switch for easy operation External output signals: Start, Torque up, Count up & Cycle OK
Input Voltage	230 V AC, 50/60 Hz	
Mass (g)	3500	5100
Plug Shape	<p style="text-align: center;">Europe</p>	

External Dimensions



Delvo DLV7100/7200/8100/8200 series ■ For Machine Screws (2.6 - 6.0 mm) Non-CE

115V



Features

Long Time Selling, Reliable, and High Performance

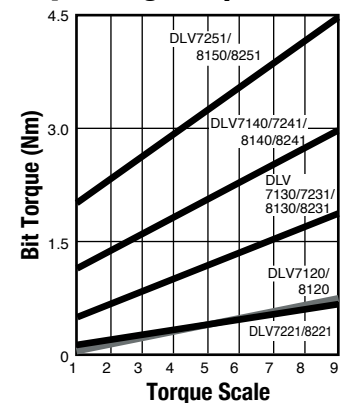
- Transformerless space saving model built in automatic stop circuit
- Combination of unique clutch mechanism and automatic stop circuit maintains high repetitive torque accuracy
- The lever start type DLV7100 / 7200 series is suited for temporarily tightening screws and tightening screws set at angles
- The DLV8100 / 8200 series is push to start type for continuous screw tightening
- The high speed type DLV7200 / 8200 series enhances working efficiency
- The high torque type DLV7251 / 8150 / 8251 series is equipped with a grip, which is useful for tightening big screws like 6 mm machine screws

Specifications

		Standard			High Speed			High Torque	Standard			High Torque	High Speed			High Torque
Model	Bit Shank: Hex. 5 mm	DLV7120-FJE	DLV7130-FJE	DLV7140-FJE	DLV7221-FJE	DLV7231-FJE	DLV7241-FJE	DLV7251-FKE	DLV8120-FJE	DLV8130-FJE	DLV8140-FJE	DLV8150-FJE	DLV8221-FJE	DLV8231-FJE	DLV8241-FJE	DLV8251-FKE
	Bit Shank: Hex. 6.35 mm	DLV7120-FKE	DLV7130-FKE	DLV7140-FKE	DLV7221-FKE	DLV7231-FKE	DLV7241-FKE		DLV8120-FKE	DLV8130-FKE	DLV8140-FKE	DLV8150-FKE	DLV8221-FKE	DLV8231-FKE	DLV8241-FKE	
Starting Method		Lever Start							Push to Start							
Input Voltage		115 V AC, 50/60 Hz														
Torque Adjustment		Stepless														
Electric Screwdriver	Torque (Nm)	0.25 - 0.75	0.5 - 1.7	1.2 - 3.0	0.35 - 0.7	0.5 - 1.7	1.2 - 3.0	2.0 - 4.5	0.25 - 0.75	0.5 - 1.7	1.2 - 3.0	2.0 - 4.5	0.35 - 0.7	0.5 - 1.7	1.2 - 3.0	2.0 - 4.5
	Free Speed (min ⁻¹)	900	900	600	1800	1800	1100	700	900	900	600	400	1800	1800	1100	700
Power Consumption (W)		Approx. 35			Approx. 45				Approx. 35			Approx. 45				
Screw Size (mm)	Machine Screw	2.6 - 3.0	2.6 - 4.0	3.5 - 5.0	2.6 - 3.0	2.6 - 4.0	3.5 - 5.0	4.5 - 6.0	2.6 - 3.0	2.6 - 4.0	3.5 - 5.0	4.5 - 6.0	2.6 - 3.0	2.6 - 4.0	3.5 - 5.0	4.5 - 6.0
	Tapping Screw	2.6 - 3.0	2.3 - 3.5	3.5 - 4.0	2.6 - 3.0	2.3 - 3.5	3.0 - 4.0	4.5 - 5.0	2.6 - 3.0	2.3 - 3.5	3.5 - 4.0	4.5 - 5.0	2.6 - 3.0	2.3 - 3.5	3.0 - 4.0	4.0 - 5.0
Mass (g)		700			700			890	690			690			890	
Bit Type (mm)	For FJE			For FKE			Asia									

* All models of FJE / FKE series are made to order.

Torque Diagram (for reference)

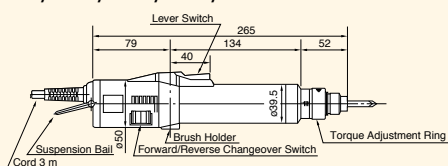


Standard Accessories

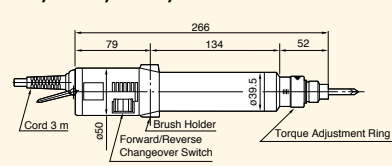
	No.	FJE	FKE except DLV7251 / 8150 / 8251-FKE	DLV7251 / 8150 / 8251-FKE
Bit	No.1 x 6 x 70	1	-	-
	No.1 x 7 x 75	-	1	-
	No.2 x 6 x 70	1	-	-
	No.2 x 7 x 75	-	1	1
	No.3 x 7 x 50	-	-	1
Spare Carbon Brush		2		
Suspension Bail		1		

External Dimensions

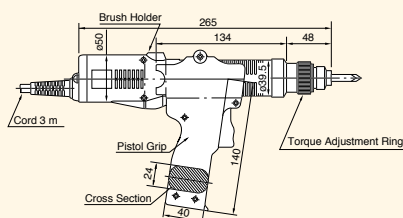
• DLV7120/7130/7140/7221/7231/7241



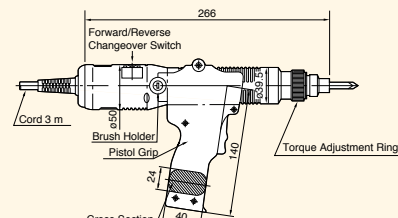
• DLV8120/8130/8140/8221/8231/8241



• DLV7251



• DLV8150/8251



Unit: mm

Brushless Delvo DLV02/12/16 series ■ For Machine Screws (1.0 - 4.2 mm)

Features

Brushless motors are incorporated for maximum tool life

- Ergonomic grip offers greater operator comfort and increased maneuverability
- Grounded bit system standard
- Clear plastic torque adjustment cover provided as standard accessory (DLV02/12/16SL-CKE)
- ESD (electrostatic discharge) protection (DLV02/12/16SL-BKE)
- Compliant with CE standards
- Controllers feature an overload detection function. When an overload is detected, the controller stops the screwdriver. Operation can be resumed after the screwdriver is unloaded, and the lever released (DLC16S)
- Universal input voltage from 100 to 240 V AC for easy installation (DLC16S)
- Variable speed adjustment enables you to select optimum screw tightening speed (DLC16S)

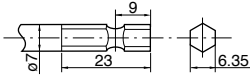


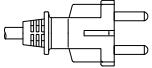
DLV02/12/16SL-CKE

DLV02/12/16SL-BKE

DLC16S

Specifications

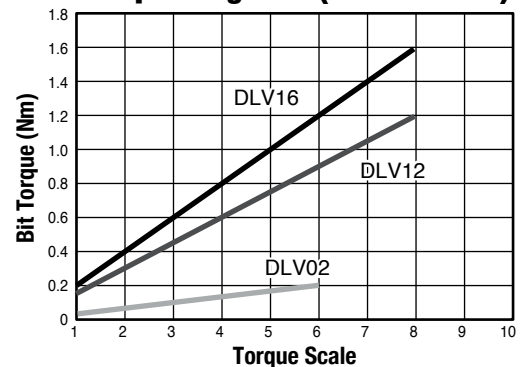
Model	Standard	DLV02SL-CKE	DLV12SL-CKE	DLV16SL-CKE
	ESD	DLV02SL-BKE	DLV12SL-BKE	DLV16SL-BKE
Starting Method	Lever Start			
Input Voltage	20 - 30 V DC			
Torque Adjustment	Stepless			
Torque (Nm)	0.03 - 0.2	0.15 - 1.2	0.2 - 1.6	
Free Speed (min ⁻¹)	700 - 1000			
Power Consumption (W)	48			
Screw Size (mm)	Machine Screw	1.0 - 2.2	1.4 - 3.0	2.2 - 4.0
	Tapping Screw	1.0 - 2.0	1.4 - 2.6	2.0 - 3.0
Bit Type (mm)				
Mass (g)	470			

Model	DLC16S-WGB
Input Voltage	100 - 240 V AC, 50/60 Hz
Output Voltage	20 - 30 V DC
Function	Speed Control
Plug Shape	
Mass (g)	380

Standard Accessories

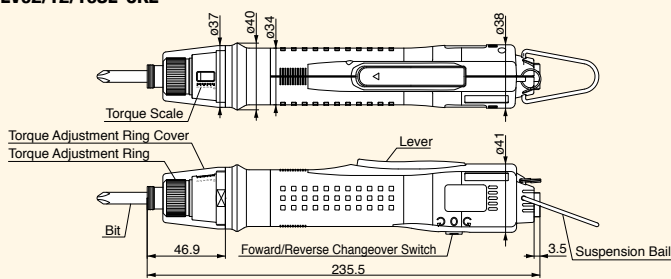
Model		DLV02	DLV12	DLV16
Bit	No.0 × 3.8 × 50	1	-	-
	No.1 × 3.8 × 50	1	1	1
	No.2 × 4.5 × 50	-	1	1
Connection Cable		1	1	1

Torque Diagrams (for reference)

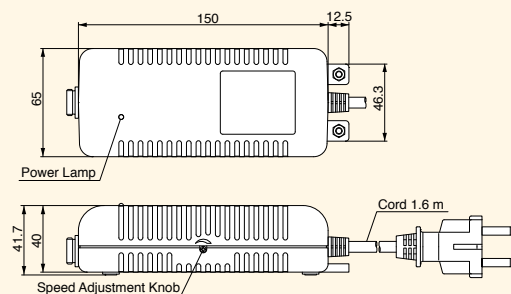


External Dimensions

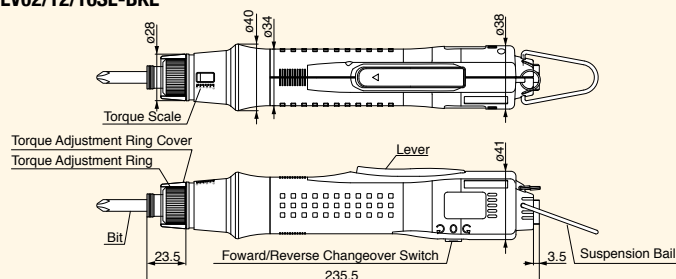
•DLV02/12/16SL-CKE



•DLC16S-WGB



•DLV02/12/16SL-BKE



Unit: mm

Brushless Delvo A series

DLV30A/45A/70A

■ For Machine Screws (2.6 - 8.0 mm)

Features

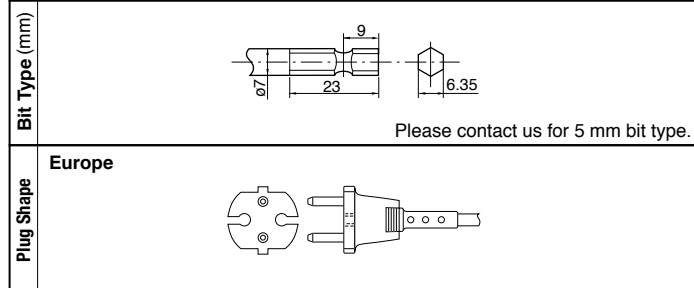
Eco-friendly electric screwdrivers with built-in brushless motors in a transformerless profile

- Torque range from 0.4 to 7.0 Nm
- Speed range from 650 to 2000 min⁻¹
- Both the Lever Start and Push to Start types of models are available
- Equipped with a torque adjustment ring cover
- Design conforms to the RoHS Directive and thus appeals to the environmentally conscious user
- Models with CE marking are available
- Easily detachable Pistol Grip DLW2300 (TD00335) comes with the unit as a standard accessory (DLV45A/70A)



Specifications

Electric Screwdriver	Model	Bit	Low Speed	Standard	High Speed	Low Speed	Standard	Low Speed
			DLV30A06L-AB : K	DLV30A12L-AB : K	DLV30A20L-AB : K	DLV45A06L-AB : K	DLV45A12L-AB : K	DLV70A06L-AB : K
		Lever Start						
		Push to Start						
			DLV30A06P-AB : K	DLV30A12P-AB : K	DLV30A20P-AB : K	DLV45A06P-AB : K	DLV45A12P-AB : K	DLV70A06P-AB : K
		Free Speed (min ⁻¹)	650	1200	2000	650	1200	650
		Input Voltage	230 V AC, 50/60 Hz					
		Torque (Nm)	0.4 - 1.6			2.0 - 4.5		3.8 - 7.0
			1.2 - 3.0					
		Power Consumption (W)	Approx. 45					
		Screw Size (mm)	2.6 - 5.0			4.5 - 6.0		6.0 - 8.0
			2.5 - 4.0			4.0 - 5.0		4.5 - 6.0
		Mass (g)	700			870 (with Pistol Grip)		

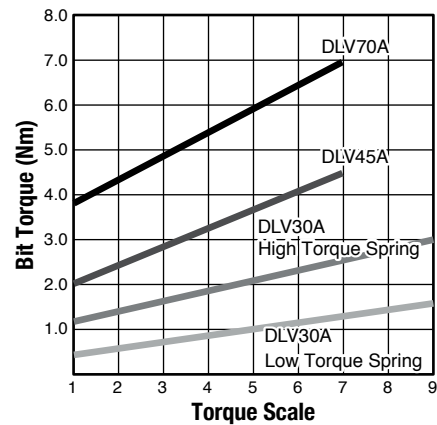


*1: ABK type has CE marking *2: Standard Accessory *3: Built-in.

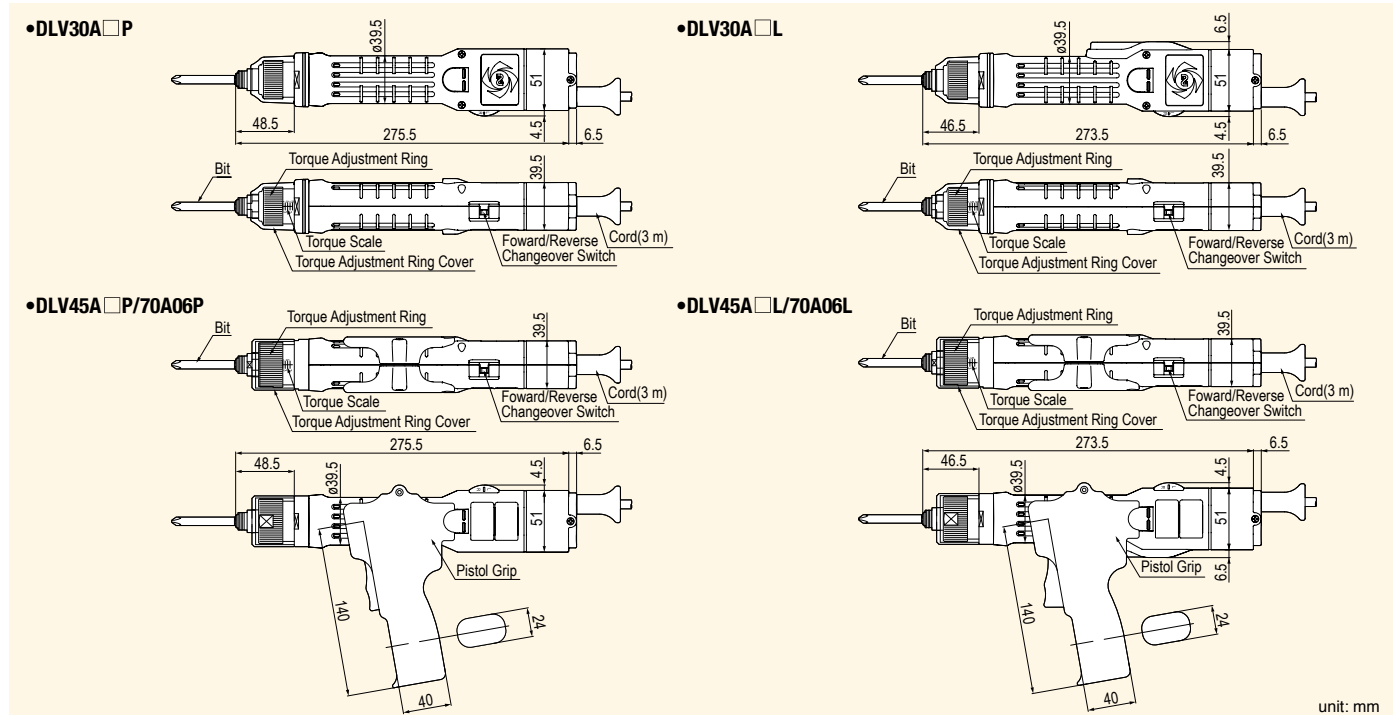
Standard Accessories

	DLV30A	DLV45A/70A
Bit No.2 x 7 x 75	1	1
Suspension Bail	1	1
Low Torque Spring	1	-

Torque Diagram (for reference)



External Dimensions

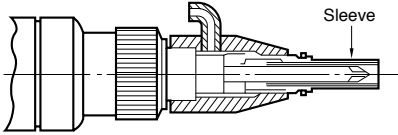


Sleeves and Vacuum Pickups

■ For DLV7100, 7200, 8100, 8200-□J□ series

Vacuum Pickup

DLP7000 (for DLV7100, 7200, 8100, 8200-□J□ series Electric Screwdrivers)

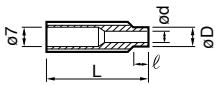


Standard Set

Vacuum Pickup (Part No.)	DLP7000 (TD00344)
Accessories	DLS3223 × 1 pc.
	DLS3225 × 1 pc.

Sleeve DLS3000 series (Metal)

Unit: mm

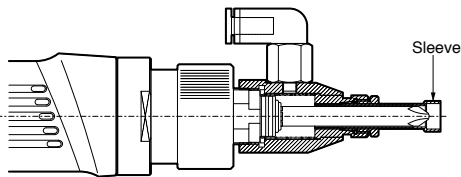


Sleeve						Bit	
Model	Part No.	ød	øD	ℓ	L	Phillips Head (No. × d × L)	
DLS3222	TD00364	5.6	7	5	34	No.1 × 5 × 70	
DLS3223	TD05024	6.1	9	—		No.2 × 6 × 70	
DLS3224	TD00365	6.4	9			No.1 × 4 × 100	
DLS3225	TD00366	7.1	9	18		No.1 × 5 × 100	
DLS3226	TD00367	4.6	7		No.2 × 5 × 100		
DLS3227	TD00368	5.1	7		No.2 × 6 × 100		
DLS3228	TD00369	5.6	7		65	No.1 × 4 × 100	
DLS3229	TD00370	6.1	9			No.1 × 5 × 100	
DLS3230	TD00371	6.4	9			No.2 × 5 × 100	
DLS3231	TD00372	7.1	9			No.2 × 6 × 100	

■ For DLV7100, 7200, 8100, 8200 series
DLV30, 45, 70-IKE series
A series(DLV30A, 45A, 70A)

Vacuum Pickup

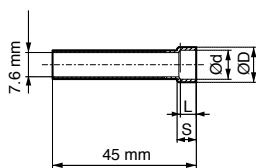
DLP7400



Standard Set

Vacuum Pickup (Part No.)	DLP7400 (TD07285)	DLP7400 for high torque (TD07286)
	OD 5mm Hex. Shank	OD 6.35mm Hex. Shank
Accessories	DLS3223 × 1 pc.	DLS4220 × 1 pc.
	DLS3225 × 1 pc.	DLS4221 × 1 pc.

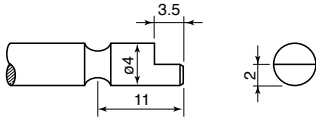
Sleeve DLS4000 series (Metal)



Sleeve						Bit	
Model	Part No.	ød mm	øD mm	L mm	S mm	Phillips Head (No. × d × L)	
DLS4220	TD08001	9.1	11	5	6	NK 35	No.1 × 7 × 75
DLS4221	TD08002	10.6	12.5	5.5	7		No.2 × 7 × 75
							No.3 × 7 × 75

NK BIT

■ For DLV7400A, 5700, 5800, 7300, 7000, 8000, 3300 series

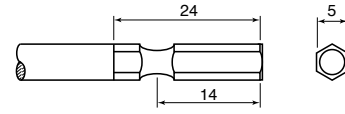


OD 4 mm Shank

Unit: mm

Model	Part No.	Size			Dimensions
		No. x	d	x L	
Phillips NK4D	TD20009	00	2	44	
	TD20010			64	
	TD20021	0	1.8	44	
	TD20022			64	
	TD20029			44	
	TD20030	1	2.5	64	
	TD20037			64	
	TD20038			64	
	TD20039	1	4	44	
	TD20040			64	
	TD20047			44	
	TD20048	2	4	44	
TD20050	64				
TD20050	3	6	44		
Model	Part No.	W x T	x L	Dimensions	
Plain Slot NK4DM	TD20051	2	0.3	44	
	TD20052	2.5	0.3		
	TD20053	3	0.4		
	TD20054	4	0.5		
	TD20055	5	0.65		
Model	Part No.	H x L	Dimensions		
Hexagon Head NK4DX	TD20056	1.5	44		
	TD20057	2			
	TD20058	2.5			
	TD20059	3			
	TD20060	4			
Model	Part No.	H x d x L	Dimensions		
Hex Socket NK4DB	TD20064	4	6	44	
	TD20065	4.5	7		
	TD20066	5	7		
	TD20067	5.5	8		

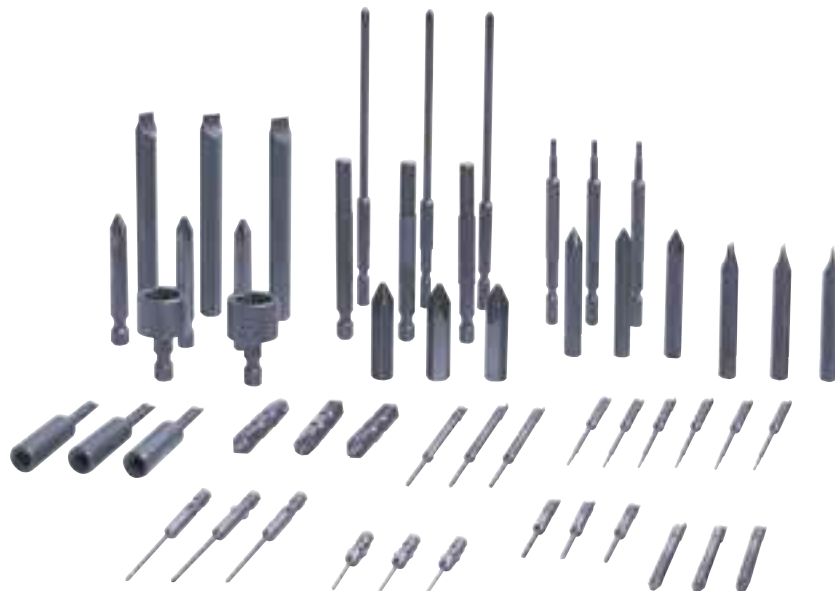
■ For DLV7100, 7200, 8100, 8200, 3100, 30-IKE, A(DLV30A) series



OD 5 mm Hex. Shank

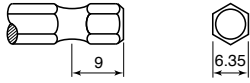
Unit: mm

Model	Part No.	Size			Dimensions	
		No. x	d	x L		
Phillips NK31	TD20193	1	4	70		
	TD20194		100			
	TD20196		5	70		
	TD20197		100			
	TD20200		6	70		
	TD20201	100				
	TD20210	2	5	70		
	TD20211		100			
	TD20214		6	70		
	TD20215		100			
	Model		Part No.	No. x		L
Phillips NK16	TD20224		1	70		
	TD20225	100				
	TD20232	2	70			
	TD20233		100			
	TD20235		150			
Model	Part No.	H x d x L	Dimensions			
Hexagon Head NK31X	TD20254	2	4	70		
	Part No.	H x L				
	TD20256	2.5	70			
	TD20258	3	70			
	TD20260	4	70			
	TD20262	5	70			
Model	Part No.	H x D x d x L	Dimensions			
Hex Socket NK31B	TD20272	5.5	9	4	70	
	TD20274	6	10	4.5	70	
	TD20276	7	10	70		
	TD20277	7	11	5.5	100	
	TD20278	8	13	6	70	
	TD20279	8	13	100		
	TD20282	10	16	70		
	TD20283	10	16	100		



NK BIT

■ For DLV7500, 8500, 7100, 7200, 8100,
8200, 02, 12, 16, 30/45/70-IKE
A(DLV30A/45A/70A) series



OD 6.35 mm Hex. Shank

Unit: mm

Model	Part No.	Size			Dimensions					
		No. x	d	L						
Phillips NK35	TD20306	1	4	75						
	TD20307			100						
	TD20308			50						
	TD20309			75						
	TD20310			100						
	TD20311			120						
	TD20312	150	2	7						
	TD20313	200								
	TD20319	50								
	TD20320	75								
	TD20321	100								
	TD20322	120								
	TD20323	150	3	7						
	TD20324	200								
	TD20327	50								
	TD20328	75								
TD20329	100									
TD20330	120									
TD20331	150	2	4.5	50						
TD20332	200									
TD20335	0	1	3.8	50						
TD20336	1									
TD20337	2									
TD20338	4.5									
Phillips NK15	TD20354	1	1	50						
TD20355	75									
TD20356	100									
TD20357	120									
TD20358	150									
TD20359	200									
TD20362	50			2		100				
TD20363	75									
TD20364	100									
TD20366	150									
TD20367	200			3		100				
TD20371	75									
TD20372	100									
TD20374	150									
TD20375	200			7		0.9			50	
TD20378	75									
TD20380	100									
Hexagon Head NK35X	TD20382	3	70	1.27						
TD20385	1.5									
TD20388	2									
Part No.	H x L			70						
TD20391	2.5									
TD20394	3									
TD20397	4									
TD20400	5						50			
TD20404	6									
Hex Socket NK35BN	TD20442			10			16	8		
TD20443	75									
TD20457	13	10	100							
TD20458	75									

If Bits other than the above are required,
please contact Nitto Kohki or our distributors.

SAFETY GUIDE

Be sure to read and understand the following safety notations and all safety precautions.



WARNING:

Indicates a potentially hazardous situation which, if failure to comply with the instructions given, could result in serious injury or death.



CAUTION:

Indicates a potentially hazardous situation which, if failure to comply with the instructions given, could result in injury or material damage.

Safety Precautions

- Be sure to follow the safety precautions to keep accidents such as fires, electroshock, and injuries from occurring.
- Before using your tool, please read this manual carefully so that you may use it properly to get the most out of it.
- Keep the manual handy – so you can use it whenever necessary.



WARNING

- Keep work area clean. Cluttered work areas and benches invite accidents and injuries.
- Consider proper working environments for each tool carefully. Do not expose electric tools to extreme amounts of moisture or direct contact with water or rain. Keep area well lit at all times to prevent hidden dangers and never operate the equipment near flammable liquids or in gaseous or explosive atmospheres.
- Prevent operators from electric shock. When using electric tools, prevent body contact with grounded surfaces (e.g. pipes and outer frames of radiators, microwave ovens, and refrigerators, etc.).
- Keep all electric tools and power cords away from children and all unauthorized personnel. Also all visitors should be kept away from work area.
- Properly store tools and accessories while not in use. They should be kept in a dry, locked-up location out of reach of children or unauthorized personnel.
- Do not force tool. It will do the job better and more safely at the rate for which it was intended.
- Use the right electric power tool that can complete the job within its specifications. Do not attempt to adapt improper attachments or accessories to complete a job. Do not use the tool for other than what they were designed for.
- Dress properly. Do not wear loose clothing and/or accessories. (gloves, necklace etc.) They can be caught in moving parts. Non-skid footwear is recommended in outdoor operation. Wear protecting hair covering to contain long hair.
- Always wear safety glasses during operation. Wear respiratory protection when working in an environment where dust particles are generated during operation.
- Do not abuse cord. Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil, and sharp edges.
- Use clamps or a vise to secure the work piece tightly and eliminate vibration. Never hold the work piece with your hands, keep both hands on the electric tool for increased productivity.
- Do not overreach. Keep proper footing and balance at all times.
- Maintain tools with care. For safe and efficient work, use the proper bit and check it regularly. Do not use the bit with a worn out or deformed tip. When oiling and replacing parts, follow the instructions given by the instruction manual. Inspect tool cords periodically and if damaged, have them replaced by an authorized service facility. Keep handles dry, clean, and free from oil and grease.
- Disconnect a tool or a controller when not in use, when repairing, or when changing accessories and bits, etc.
- Remove adjusting keys and wrenches. Form habit of checking to see that keys and adjusting wrenches are removed from tools before turning it on.
- Always avoid an unexpected start by having all power switches in the off position prior to attaching to a power supply. Never carry tools with your finger on the on/off switch when the power is attached. Never plug the cord into a receptacle while your finger is on the on/off switch.
- When the tool is used outdoors, use an electric extension cord or cable suitable for outdoor use.
- Stay alert. Watch what you are doing. When using electric tools, take good care of tool handling, working manner, and surrounding conditions. Use common sense. Do not operate tool when you are tired.
- Check damaged parts. Before further use of the tool, an accessory or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended functions. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. When repairing or replacing parts, follow the directions of the instruction manual. The part that is damaged should be properly repaired or replaced by an authorized service facility unless otherwise indicated elsewhere in this operation manual. Have defective switches replaced by an authorized service facility. Do not use the tool if the switch cannot be turned on and off.
- Use only recommended accessories and attachments as per tool operator manual and “delvo” general catalog. Use of improper accessories and attachments may result in an accident or serious injury.
- Any repairs on the tool should be performed only by an authorized service facility. Do not modify the tool that is complying with the safety standard. If the repairman who has poor knowledge and skill repairs the tool, the tool may not give a good performance and result in an increased risk of injury to the user.
- The power source must be limited to the individual tools specifications as stated on the nameplate or instruction manual. If used at a higher or lower voltage than indicated, it may cause failure and result in an increased risk of injury to the user.
- Before work operation carefully check if there are underground installations such as conduit, water pipe, and gas pipe, etc. If a tool should touch them, it might cause electric shock, electric leak, or gas leak.
- Hold the tool body firmly so as not to be swung by it when using. If not, this may cause injury.
- Do not bring hand or face close to moving parts such as bit etc. when using. This may cause injury.
- When you have dropped the tool by mistake, carefully check the tool if there is breakage, cracks or deformation. This may cause injury.



CAUTION

- Install bits or accessories securely in accordance with the operation manual. Insufficient installation may cause injury.
- Whenever setting the torque, unplug the cable of the tools. Adjusting the torque setting during rotation may cause injury.
- When operating a tool at high places, check that there is no person under the places. Do not stumble over the cord nor drop the material or tool body. This may cause injury.
- Never leave a tool running unattended on the working bench or floor. Always turn the power switch or lever to the off position and disconnect from the power source when not in use.
- Do not overload to the extent that the motor locks or the clutch malfunctions. This may cause smoke, fire, failure or injury.
- If the tool is overheating or functioning abnormally, stop using the screwdriver immediately and inspect it to see whether any repairs are necessary. Otherwise this may cause failure or injury.
- The electric screwdriver may overheat depending on the type of screw, type of screw-tightened material, or frequency of use. To avoid overheating, stop operating the screwdriver for a time or use several drivers in alteration. Overheating may reduce the life of the product or cause failure or injury.
- The fastening torque may vary depending on how the product is operated or held, the type of screw, and the fastening conditions. Use a torque wrench or similar tool to check that the fastening torque is appropriate.