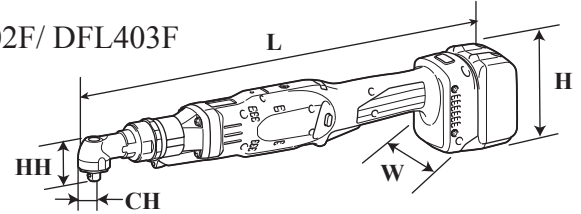


TECHNICAL INFORMATION

Model No. ▶ DFL083F/ DFL125F/ DFL204F/ DFL302F/ DFL403F

Description ▶ Cordless Angle Screwdriver



CONCEPT AND MAIN APPLICATIONS

Model DFL083F series are LXT 14.4V Cordless Angle Screwdriver, developed on DFL651F and designed to meet homologation requirements of VDI/VDE2647.

Their main features and benefits are:

- High torque accuracy in accordance with VDI/VDE2647
- Programmable speed control via USB connection
- Poka-yoke device can be externally attached.
- Maintenance alarm: LED indicator indicates when to carry out maintenance

Dimensions: mm (")		
Length (L)	BL1415N	464 (18-1/4)*1, 503 (19-3/4)*2
	BL1430B	481 (19)*1, 520 (20-1/2)*2
Width (W)	74 (2-15/16)	
Height (H)	98 (3-7/8)	
Head height (HH)	31.5 (1-1/4)*1, 35 (1-3/8)*2	
Center height (CH)	16 (5/8)*1, 18.5 (3/4)*2	

*1 For DFL083F/ DFL125F/ DFL204F

*2 For DFL302F/ DFL403F

Specifications

Specifications		Model	DFL083F/ DFL125F/ DFL204F/ DFL302F/ DFL403F
Battery	Voltage: V		14.4
	Capacity: Ah		1.5, 3.0, 4.0, 5.0, 6.0
	Energy capacity: Wh		22, 44, 58, 72, 87
	Cell		Li-ion
	Charging time (approx): min		15, 22, 36, 45, 55 with DC18RC
Max output: W			390
No load speed: min ⁻¹ = rpm			150 - 700/ 100 - 700/ 100 - 440/ 70 - 230/ 50 - 220
Torque range: N·m (in·lbs)	Hard joint		2 - 8 (18 - 71)/ 5 - 12 (44 - 106)/ 8 - 20 (71 - 177)/
	Soft joint		16 -30 (142 -266)/ 25 -40 (221 - 354)
Torque shut-off			Mechanical clutch
Programmable speed control			USB connection
	Program entry		Yes
	Number of steps		6
	Forward/reverse setting		Available in at every one of 6 steps
LED job light			Yes
Buzzer			Yes
Soft start			Yes
LED indicator light color			3 colors (green, red, yellow)
OK/NOK judgment of each tightening			Yes (solid green/solid red)
Auto battery shut-off system			Yes
Battery capacity warning			Yes (blinking red)
Maintenance alarm			Yes (blinking yellow)
Poka-yoke (mistake-proofing)			Yes (externally attachable)
Driving shank			9.5mm (3/8") Square*3
Weight according to EPTA-Procedure 01/2014: kg (lbs)			With BL1415N: 1.7 - 1.9 (3.8 - 4.2)*1, 2.0 - 2.1 (4.3 - 4.6)*2 With BL1460A: 1.9 - 2.1 (4.3 - 4.7)*1, 2.2 - 2.3 (4.9 - 5.1)*2

Standard equipment ▶ Optional accessories

Torque adjust tool (Country-specific)
Protector (Country-specific)
USB cable

Note:

The standard equipment may vary by country or model variation.

Spindle C complete (6.35mm C form bit)
Spindle F complete (6.35 square drive)
Spindle H complete (9.5 square drive)

Protectors (red, blue, yellow, transparent)

Anti-kickback head set, Hook (Hanging loop), Torque adjust tool (For torque adjustment)

Battery BL1415N/NA/NAP
Battery BL1430/A/AP/B
Battery BL1440
Battery BL1450
Battery BL1460A/AP/B

Fast charger DC18RC/ DC18RE
Charger DC18SD/DC24SC
Automotive charger DC18SE
Four port multi charger DC18SF
Two port multi fast charger DC18RD

► Weight variation

Weight of DFL083F with BL1415N

					Total Weight	
Standards	Specification	Part description	Part No.	Part Weight (kg)	Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.593	1.9	4.2
		BL1415N	-	0.295		
	Min weight	Tool with standard tool head	-	1.400	1.7	3.8
		BL1415N	-	0.295		

Weight of DFL083F with BL1460A

					Total Weight	
Standards	Specification	Part description	Part No.	Part Weight (kg)	Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.593	2.1	4.7
		BL1460A	-	0.535		
	Min weight	Tool with standard tool head	-	1.400	1.9	4.3
		BL1460A	-	0.535		

Weight of DFL125F with BL1415N

					Total Weight	
Standards	Specification	Part description	Part No.	Part Weight (kg)	Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.601	1.9	4.2
		BL1415N	-	0.295		
	Min weight	Tool with standard tool head	-	1.408	1.7	3.8
		BL1415N	-	0.295		

Weight of DFL125F with L1460A

					Total Weight	
Standards	Specification	Part description	Part No.	Part Weight (kg)	Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.601	2.1	4.7
		BL1460A	-	0.535		
	Min weight	Tool with standard tool head	-	1.408	1.9	4.3
		BL1460A	-	0.535		

Weight of DFL204F with BL1415N

					Total Weight	
Standards	Specification	Part description	Part No.	Part Weight (kg)	Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.595	1.9	4.2
		BL1415N	-	0.295		
	Min weight	Tool with standard tool head	-	1.402	1.7	3.8
		BL1415N	-	0.295		

Weight of DFL204F with BL1460A

					Total Weight	
Standards	Specification	Part description	Part No.	Part Weight (kg)	Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.595	2.1	4.7
		BL1460A	-	0.535		
	Min weight	Tool with standard tool head	-	1.402	1.9	4.3
		BL1460A	-	0.535		

Weight of DFL302F with BL1415N

Standards	Specification	Part description	Part No.	Part Weight (kg)	Total Weight	
					Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.786	2.1	4.6
		BL1415N	-	0.295		
	Min weight	Tool with standard tool head	-	1.668	2.0	4.3
		BL1415N	-	0.295		

Weight of DFL302F with BL1460A

Standards	Specification	Part description	Part No.	Part Weight (kg)	Total Weight	
					Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.786	2.3	5.1
		BL1460A	-	0.535		
	Min weight	Tool with standard tool head	-	1.668	2.2	4.9
		BL1460A	-	0.535		

Weight of DFL403F with BL1415N

Standards	Specification	Part description	Part No.	Part Weight (kg)	Total Weight	
					Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.793	2.3	5.1
		BL1415N	-	0.295		
	Min weight	Tool with standard tool head	-	1.676	2.2	4.9
		BL1415N	-	0.295		

Weight of DFL403F with BL1460A

Standards	Specification	Part description	Part No.	Part Weight (kg)	Total Weight	
					Kg	lbs
EPTA-Procedure 01/2014: kg (lbs)	Max weight	Tool with Anti-kickback head	-	1.793	1.9	4.2
		BL1460A	-	0.535		
	Min weight	Tool with standard tool head	-	1.676	1.8	4.1
		BL1460A	-	0.535		

► Features and benefits

Programmable speed control

- Speed control can be programmed depending on types of joints (hard joint or soft joint) or takt time.
- Speed control program can consist of up to 6 steps
- Speed control program you have set can be entered into the machine from your Windows (7/ 8/ 10) PC with a USB connection.
- Forward/reverse setting is available at every one of the 6 steps.

Model	Torque range	RPM (min-1)
DFL083F	2 - 8 N•m	150 - 700
DFL125F	5 - 12 N•m	100 - 700
DFL204F	8 - 20 N•m	100 - 440
DFL302F	16 - 30 N•m	70 - 230
DFL403F	25 - 40 N•m	50 - 220

Designed to meet homologation requirements

- **Torque accuracy value:** $\pm 10\%$, $\pm 3 \sigma$, $C_m \geq 1.67$ obtained from our tests performed in accordance with VDI/VDE2647.
- **Stable torque value** achieved by using a new bevel gear between the clutch and the output shaft to improve gear engagement for smooth power transmission.

Hook (Hanging loop)
(option)

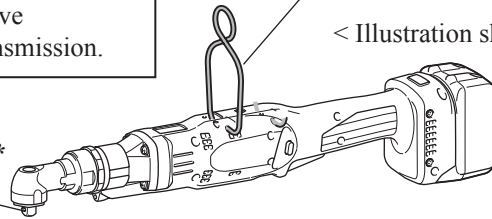
useful to hang the tool

BL motor
same Motor as DFL651F

< Illustration shows model DFL083F >

9.5mm (3/8") Square drive

Spindles for 6.35mm (1/4") C form bit and 6.35mm (1/4") Square drive are also available as optional accessories. (Only DFL083F/125F/204F)



Single LED job light
with afterglow function

Poka-yoke (mistake-proofing) device
can be externally attached.

Housing is designed to be externally equipped with the transmitter of TW-800 series of HERUTU ELECTRONICS CORPORATION, which is regarded as a reliable wireless poka-yoke device by automobile manufacturers.

Powered by 14.4V Li-ion battery

BL1415N/NA/NAP : 1.5Ah
BL1430A/AP/B : 3.0Ah
BL1440 : 4.0Ah
BL1450 : 5.0Ah
BL1460A/AP/B : 6.0Ah

Note: When using the tool with BL1430A, if necessary fastening torque cannot be obtained, Auto-stop system will be activated to stop the motor regardless of the remaining battery capacity displayed on the battery.

Maintenance alarm

- A yellow LED starts blinking to indicate that the preset number of screws tightened is reached.
- Auto stop function can be additionally preset.

Auto-stop system

Indication lamp and beeper warn assembly worker visually and audibly of battery power reduction. If battery power reduces further, the motor automatically stops to prevent incomplete fastening. (See the instruction manual for detailed information on the behavior of the lamp and the beeper.)

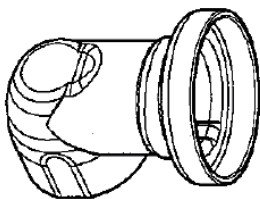
*The same advantage as Model DFL082F/301F/402F

**The same advantage as Model DFL124F/203F

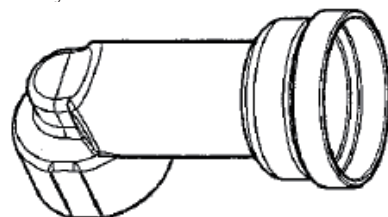
***The same advantage as Model DFL651F

New accessory (Protector)

New protectors are designed to prevent damage to car body etc.



Description: Protector I
Part No. 422279-7, 422280-2, 422281-0, 422282-8
For DFL083F/ DFL125F/ DFL204F
Color: red/ blue/ yellow/ transparent



Description: Protector I
Part No. 422284-4, 422285-2, 422286-0, 422287-8
For DFL302F/ DFL403F
Color: red/ blue/ yellow/ transparent

Comparison of products

Specification Comparison

Specifications		Model	DFL083F/ 125F/ 204F/ 302F/ 403F	DFL082F/ 124F/ 203F/ 301F/ 402F	DFL65IF
Battery	Voltage: V		14.4	14.4	18
	Capacity: Ah		1.5, 3.0, 4.0, 5.0, 6.0	1.5, 3.0, 4.0, 5.0, 6.0	1.5, 2.0, 3.0, 4.0, 5.0, 6.0
	Energy capacity: Wh		22, 44, 58, 72, 87	22, 44, 58, 72, 87	22, 44, 58, 72, 90, 108
	Cell		Li-ion	Li-ion	Li-ion
No load speed: rpm= min ⁻¹	Charging time: min.		15, 22, 36, 45, 55 with DC18RC	15, 22, 36, 45, 55 with DC18RC	15, 24, 22, 36, 45, 55 with DC18RC
			150 - 700/ 100 - 700/ 100 - 440/ 70 - 230/ 50 - 220	700/ 410/ 220/ 260/ 200	80 - 200
Torque range: N·m (in.lbs)	Hard joint		2 - 8/ 5 - 12/ 8 - 20/ 16 - 30/ 25 - 40 (18 - 71)/ (44 - 106)/ (71 - 177)/ (142 - 266)/ (221 - 354)	2 - 8/ 5 - 12/ 8 - 20/ 16 - 30/ 25 - 40 (18 - 71)/ (44 - 106)/ (71 - 177)/ (142 - 266)/ (221 - 354)	25 - 65 (220 - 580)
	Soft joint				
Torque shut-off			Mechanical clutch	Mechanical clutch	Mechanical clutch
Head height: mm (")			31.5/ 31.5/ 31.5/ 35/ 35 (1-1/4)/ (1-1/4)/ (1-1/4)/ (1-3/8)/ (1-3/8)	28.5/ 31.5/ 31.5/ 34/ 34 (1-1/8)/ (1-1/4)/ (1-1/4)/ (1-5/16)/ (1-5/16)	35 (1-3/8)
Center height: mm (")			16/ 16/ 16/ 18.5/ 18.5 (5/8)/ (5/8)/ (5/8)/ (3/4)/ (3/4)	13.5/ 16/ 16/ 18/ 18 (1/2)/ (5/8)/ (5/8)/ (11/16)/ (11/16)	18.5 (3/8)
Programmable speed control			USB	No	USB
	Program entry		Yes	N/A	Yes
	Number of steps		6	N/A	6
	Forward/ reverse setting		Available at every one of 6 steps	N/A	Available at every one of 6 steps
LED job light			Yes	Yes	Yes
Beeper			Yes	Yes	Yes
Soft start			Yes	Yes	Yes
Indication lamp	Lamp colors		3 (green, red, yellow)	2 (green, red)	3 (green, red, yellow)
	OK/NOK judgment of each fastening		Solid green for OK/ Solid red for NOK	Solid green for OK/ Solid red for NOK	Solid green for OK/ Solid red for NOK
	Maintenance alarm		Yes (Blinking yellow)	No	Yes (Blinking yellow)
	Battery capacity		Blinking red	Blinking red/ red/ purple/ purple	Blinking red
Compliance with Homologation	Warning of power reduction				
	Auto-stop by further power reduction		Solid red	Solid red	Solid red
Dimensions: mm (")	Length		Yes	No/ Yes/ Yes/ No/ No	Yes
	Width		481 (19)/ 481 (19)/ 481 (19)/ 520 (20-1/2)/ 520 (20-1/2)*1	422 (16-5/8)/ 449 (17-3/4)/ 449 (17-3/4)/ 477 (18-3/4)/ 477 (18-3/4)*1	583 (23) / 600 (23-5/8)*2
	Height		74 (2-15/16) 98 (3-7/8)	74 (2-15/16) 98 (3-7/8)	75 (2-15/16) 116 (4-9/16)
Weight according to EPTA-Procedure 01/2014: kg (lbs)			See page 2/ 6 and 3/ 6	1.5 - 1.9 (3.4 - 4.2)/ 1.7 - 1.9 (3.6 - 4.2)/ 1.7 - 1.9 (3.7 - 4.2)/ 1.7 - 2.1 (3.8 - 4.6)/ 1.7 - 2.1 (3.8 - 4.6)*1	2.5 - 2.9 (5.5 - 6.5)

*1 With BL1460A *2 With Battery BL1815N/ BL1830

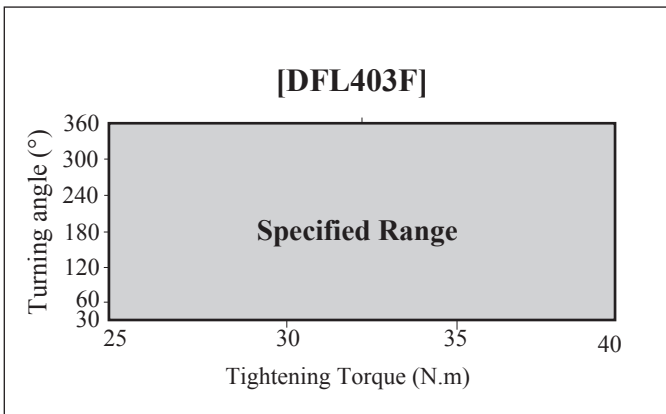
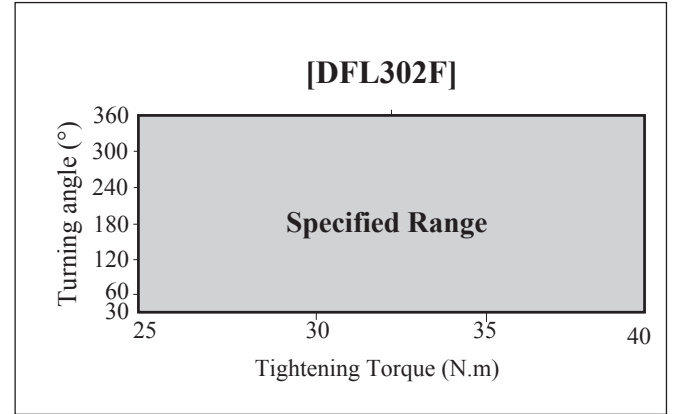
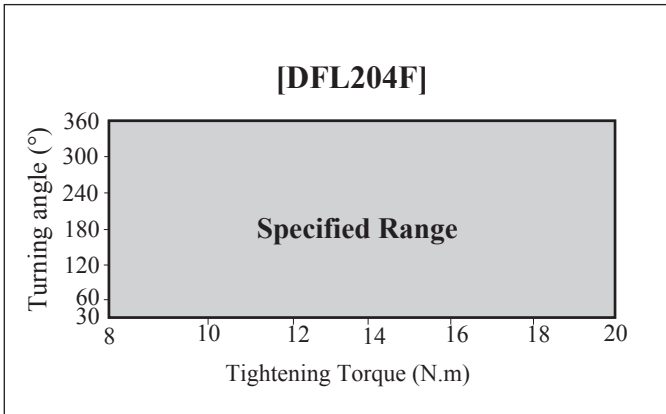
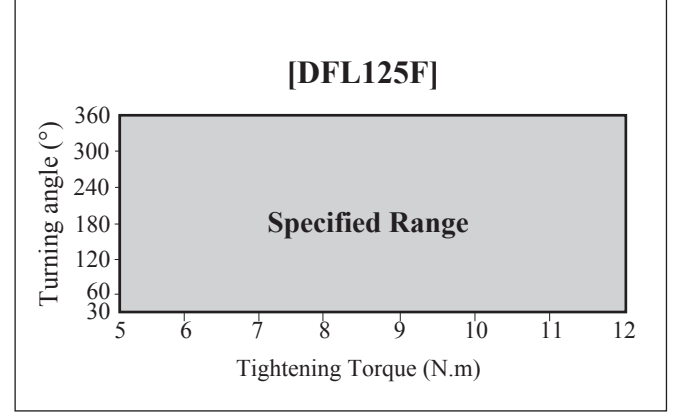
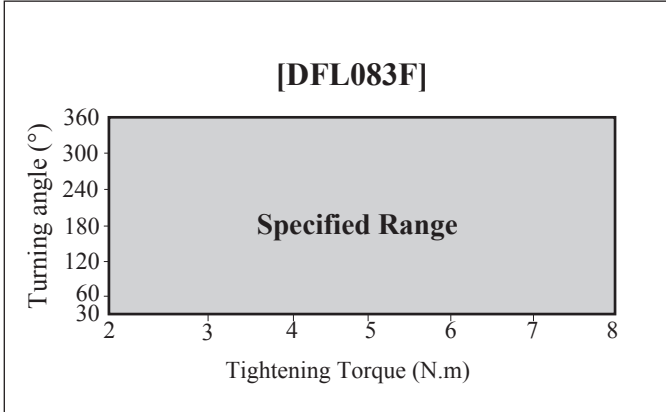
► Limit capacity graph

Tighten screw within 0 to 360° of Turning angle* as Specified Range in the following Limit capacity graphs. Tool's tightening torque will decrease and the clutch won't work if the Turning angle* is more than 360°. In this case LED indicator lights up or blinks in red.

(Turning Angle*: Refer to the explanation at the bottom of this page.)

Note: If the battery temperature is low, the battery voltage will drop.

In this case, the battery power reminder and the auto battery shut-off system are activated to prevent the tool from providing the specified performance even with a fully charged battery.



*What Is Turning Angle?

After a screw is seated, the torque increases rapidly until it is completely tightened as drawn in the graph on the right.

Turning angle is the angle by which a screw turns while the torque increases from 50% to 100% provided 100% is the torque to which the screw is completely tightened.

