



**The electrical solution for tightening operations.
Simple and ergonomic.**

**New
electric screwdrivers CL, α**

Fiam

PEOPLE AND SOLUTIONS

New
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CL and α : practical, accurate, quick, ergonomic; for high quality assembly work even with very low torques

The new CL and α electric screwdrivers have been designed and made by the Japanese HIOS, one of the world's foremost tool-making companies. Hios has chosen Fiam as its distribution partner. Featuring extremely practical controls, they are **easy, quick and comfortable to use**. They are particularly suitable for specific assembly work with **small and very small screws and nuts** and are therefore used in the following sectors: electronic and electromechanical components, toys, plastic objects, eyewear, etc.

CL 4000 NL



α 6500 NL



CL 7000 NL



CL 2000
Real size 1:1



The electrical solution for tightening operations

Be demanding

Reliability

Long lifetime of the components thanks to careful design and to quality of the productive process which results in less maintenance and repair costs

They have a **control system with automatic motor shut off** that, interacting with the controller, cuts off the power supply to the tool upon reaching the established tightening value

Particularly suitable for assembly work with small and very small screws and nuts, they ensure **high repeatability** of the tightening torque even with **very low torques**

The controller (built into the driver unit) automatically cuts off the electrical supply to the screwdriver upon reaching the torque that has been set on the tool

The **sturdiness and long life** of the internal parts ensure constant, lasting performance as well as extremely reduced maintenance costs

CL 6500 NL

α 6500 HTNL

Don't be satisfied with the maximum

Productivity

Considerable increase of the efficiency of the tightening cycle thanks to innovative systems

The internal parts ensure a high motor speed of rotation with consequent **reduction in the tightening time-cycle**

The tightening torque control system reduces to a minimum the need for quality control at the end of assembly work, resulting in a **considerable increase in the tightening cycle output**

The CL and α screwdrivers come with a new and **exclusive built-in device** that acts **both as driver unit and controller**: it guarantees excellent operation and fully exploits the capacities of the screwdriver

The driver unit supplies the correct voltage to the screwdriver and **offers a choice between two tool speeds of rotation**: the speed given by the screwdriver and a speed that is approx. 30% slower

Adjustment of the torque control device is **especially easy and practical** (through rotation of the external ring nut) **and speeds up** assembly operations

Where very small screws have to be used the **micro screwdriver CL 2000** is indispensable since it guarantees **high repeatability of torque** starting from 0.02 Nm

All models may be combined with **the screw suction system** and **the selection tray** to make assembly operations quicker and more practical (see accessories available on request)

For **fast maintenance** the brushes are easily accessible



Perfection is in your hands

Ergonomics

Optimization of the tool performances in regard to ergonomics and operator safety

These solutions ensure maximum safety of use due to **low voltage operation** (24 Volt) and **perfect thermal insulation**

Extremely small and lightweight for utmost operator comfort

All the models are fitted with a **handy, practical reversibility device**

The low supply voltage is in line with ergonomic requirements, ensuring **very low noise level (58-60 dBA), minimum vibrations and maximum safety**

They offer **total electromagnetic compatibility in the work environment**

The **micro screwdriver CL 2000** in particular is **extremely small** and **outstandingly lightweight**: these features make it a tool offering high ergonomic performances for assembly work with very small screws

All models are **fitted with a tool suspension device** to lessen operator effort

For ergonomic tightening operations on vertical surfaces that do not place a load on the hand-arm system, **auxiliary grips for transforming the straight grip into a pistol grip tool** are available on request

Naturally innovative

Ecology

Innovative systems designed paying even more attention with respect to environment and of its safeguard

These screwdrivers are made with **recyclable materials**; all the parts may therefore be easily disposed of and do not represent a hazard for environmental pollution or personal safety

The electrical solutions safeguard the workplace since there is absolutely **no oil fog in the air**, which is sometimes present when using air tools

Electric screwdrivers in the **ESD version** (Electro Static Discharge) are available on request; they are **designed for assembling electronic components** in order to protect against any electrostatic discharge



EUROPEAN DIRECTIVES 2004/108: ELECTROMAGNETIC COMPATIBILITY

New screwdrivers CL, α are in compliance with European Directive 2004/108 (15th December 2004).

They do not create any electromagnetic problems in the environment and are not influenced by them either. They are therefore suitable for operation even in presence of other electronic equipment, without compromising their regular operation.

All screwdrivers CL, α comply with directives in force.

Accessories available upon request

Driver CLT-50-230-VDE (for CL series)

It is necessary to convert the local power feed (230 Volt CA - 50 Hz) into direct current (20/30 Volt CC – 2,5 A max). It has a **built-in torque control device** able to stop automatically the power of the tool themoment the preset torque is reached.



Code	Power	Weight	Length	High	Depth	Length of cable supplied with
	W	Kg	mm	mm	mm	m
676000084	48	2,7 ca.	105	91	185	1,8

Driver CLT-65-220-VDE (for α series)

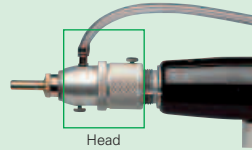
It is necessary to convert the local power feed (230 Volt CA - 50 Hz) into direct current (20/30 Volt CC – 3,5 A max). It has a **built-in torque control device** able to stop automatically the power of the tool themoment the preset torque is reached.



Code	Power	Weight	Length	High	Depth	Length of cable supplied with
	W	Kg	mm	mm	mm	m
676000085	68	4 ca.	182	132	140	1,8

Screws suction system

For easier and safer pick up and positioning of the screws; applicable on all CL, α screwdrivers: it is sufficient to match a **special head** connected with a vacuum pump. Available 4 types of heads (see chart). To the head is connected particular brass nozzle customized according to the screws or of the piece to be assembled, that you send us as sample. The bits too can be offered according to the types of screws.



Suction head for	Code
CL - 4000 NL	676010002
CL - 65000 NL, CL - 7000 NL	676010003
α	676010018
CL - 2000	676010072

Vacuum pump

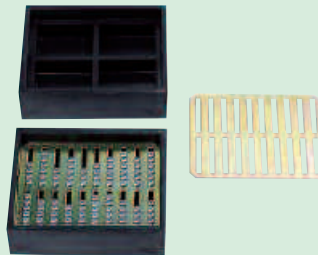
Necessary for the screw suction, it has 220Volt-50 Hz voltage and only takes 45 Watt power.



Model	Code
VP - 3 - 230EU	676000028

Shaker tray box

In order to vertically position the screws having the head on the top therefore making easy screw pick-up, you can use a **shaker tray box with interchangeable grid plates**. Grid width varies according to screws different shank diameter (maximum shank length 15 mm).

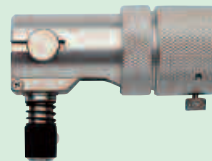


Model	Code
Shaker tray box	676010007

Screw shank Ø	Code
1,1	676010024
1,4	676010010
1,7	676010011
2,0	676010012
2,3	676010013
2,6	676010014
3,0	676010015
4,0	676010016

Angle head

A 90° angle head is available for the CL models of screwdrivers, which may be applied directly to the tool for tightening operations in restricted spaces (models CL - 2000, CL - 4000 NL and push-to-start models excluded). The head drive is fitted with a quick-change chuck for 1/4" bits. The head can rotate 360° in relation to the tool axis and must be fitted in place of the torque adjusting ring nut.



Angle head for	Code
CL - 6500 NL, CL - 7000 NL, α - 6500 NL, α - 6500 HT NL	676010001

Pistol grip

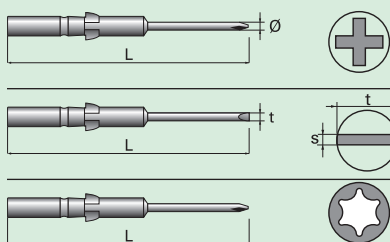
This accessory allows the CL and α models to be converted from straight grip to pistol grip screwdrivers. Starting is by push button. Not available in models CL - 2000, CL - 4000 NL.



Model	Code
Grip	676010031

Bits (except mod. CL 2000), sockets, balancers, please see the "Accessories" catalogue.

Bits for CL 2000



Imprint	mm	Length L	Code
Cross-slotted PH. 00	ø 1,5	60 mm	601056005
	ø 2,0	60 mm	601056010
	ø 2,5	60 mm	601056015
	ø 3,0	60 mm	601056020
Slotted	t = 1,3 s = 0,3	60 mm	601016005
	t = 1,5 s = 0,3	60 mm	601016010
	t = 1,8 s = 0,4	60 mm	601016015
	t = 2,0 s = 0,4	60 mm	601016020
Torx	T3	60 mm	601086005
	T4	60 mm	601086010
	T5	60 mm	601086015

Type of screwdrivers	Model	Code	Grip	Tightening torque on soft joint		Idle speed*	Starting system	Reversibility	Weight	Dimensions (mm)	Power consumption	Accessories	Noise level	Vibrations
				min. Nm	max. Nm									
	CL 2000	111313960		0,02 ÷ 0,2		680			0,21	28x166	24	HIOS H4	58	<2,5
	CL 4000 NL	111313920		0,1 ÷ 0,5		1000			0,38	33x195	24	Hex F1/4"	58	<2,5
	CL 6500 NL	111313925		0,3 ÷ 1,4		900			0,64	37x235	24	Hex F1/4"	58	<2,5
	CL 7000 NL	111313930		0,5 ÷ 2,2		750			0,75	37x255	24	Hex F1/4"	58	<2,5
	α 6500 NL	111313935		0,8 ÷ 2		1500			0,68	37x235	24	Hex F1/4"	60	<2,5
	α 6500 HT NL	111313940		0,4 ÷ 2,6		700			0,67	37x235	24	Hex F1/4"	60	<2,5
Models available upon request														
	CL 4000 PS NL	111313320		0,1 ÷ 0,5		1000			0,43	37x197	24	Hex F1/4"	58	<2,5
	CL 6500 PS NL	111313310		0,3 ÷ 1,4		900			0,64	37x235	24	Hex F1/4"	58	<2,5
	CL 7000 PS NL	111313315		0,5 ÷ 2,2		750			0,75	37x235	24	Hex F1/4"	58	<2,5

Legend

Reversibility: All models are suitable for tightening and untightening operation

Lever start

Push start

- The tightening torque values has been measured in accordance with ISO 5393 standard.
 - Noise level has been measured in accordance with ISO 3744 and ISO 15744 standards.
 - Vibrations level has been measured in accordance with ISO 8662-1 e ISO 8662-7 standard.
 - Accessory drive: female hexagonal drive 1/4", 6,35 mm (ISO 1173).
 - The code number must be used when ordering.
- *The quoted speeds have been measured using Fiam electrical driver units. With these driver units the idle speeds given in the table could vary by ± 10%.

The torque values are purely indicative and may be influenced by the softness of the type of joint, by the type and length of the screw. For all further details, please apply to the Fiam Technical Consultancy Service.

Standard equipment (supplied with the tool)

- Carbon brushes (except for CL 2000)
- 1 spring for minimum torque (except for α series)
- 3 bits (2 bits for crosslot screws for CL 2000)
- Hanging ring
- Use and maintenance manual
- Eco-friendly packaging

Chart of torque range obtainable with clutch springs assembled on the tool or supplied with

Models	Tightening torque on soft joint (Nm)	Tightening torque on soft joint (Nm)	Tightening torque on soft joint (Nm)	Tightening torque on soft joint (Nm)
CL 2000	Assembled on the tool Black colour - Ø wire 1,2 mm Code 401348005 0,03 ÷ 0,2	Supplied with Yellow colour Ø wire 1 mm Code 401348010 0,02 ÷ 0,1	Assembled on the tool Red colour - Ø wire 1,5 mm Code 595101511	Supplied with Blue colour - Ø wire 1,2 mm Code 595101211
CL 4000 NL			0,2 ÷ 0,5	0,1 ÷ 0,3
CL 6500 NL				
CL 2000	Assembled on the tool Yellow colour - Ø wire 2,2 mm Code 595102202	Supplied with White colour - Ø wire 1,8 mm Code 595101802		
CL 4000 NL				
CL 6500 NL	0,35 ÷ 1,4	0,3 ÷ 0,8		
CL 7000 NL	Assembled on the tool Purple colour - Ø wire 2,5 mm Code 595102505 0,4 ÷ 2,2	Supplied with Yellow colour - Ø wire 2,2 mm Code 595102202 0,5 ÷ 1,2	Assembled on the tool Yellow colour - Ø wire 2,2 mm Code 595102202	Assembled on the tool Green colour Ø wire 2,6 mm Code 401348025
α 6500 NL			0,8 ÷ 2	
α 6500 HT-NL				0,4 ÷ 2,6



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