

Core innovation

Body perfection

15C



**Straight, pistol and angle
15C air screwdrivers and nutrunners**

Torque range: from 0,4 to 5 Nm
Automatic shut-off

Fiam[®]
PEOPLE AND SOLUTIONS

Searching for excellence, developing ideas.

Are you looking for innovation, practicality and accuracy?

Only the range of 15C tools can satisfy your needs. A modern range, ideal in every type of industrial assembly: to overcome the performance's challenge with **different functionality levels** and thanks to the **control of the whole assembly process**.

For this reason each 15C tool is also designed to monitor the assembly cycle (poka-yoke system, anti-error system) or the joint, ensuring extraordinary results. 15C screwdrivers: perfection has a new name and a new number.

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Level 1

Screwdrivers and nutrunners with TRACS2 torque control

Accurate, reliable, constant tightenings, cycle after cycle.

High torque repeatability on hard and soft joints
(low Mean Shift value with CM/CMK $\geq 1,67$).

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Level 2

Screwdrivers and nutrunners with TRACS2 torque control + SCREWS COUNTING

15C tools with pneumatic pick up signal, subsequently converted into electric signal: it reports if the clutch shuts-off during the time set in the program.

Therefore it allows to discriminate the screws that have been tightened incorrectly with consequent quality improvement of the assembled product.

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Level 3

Screwdrivers and nutrunners with TRACS2 torque control + SCREWS COUNTING + JOINT MONITORING

15C tools with built-in torque transducer: in addition to controlling if the clutch is correctly shut-off, they read the torque applied by the tool on the joint.

It is therefore possible to process the tightening cycle by memorising the data and by identifying any error (partially tightened screw, screw already tightened, etc.).

Straight screwdriver



"Forward" pistol screwdriver



Pistol screwdriver



Control levels of the assembly process



1 torque control.

- TRACS CLUTCH
- ACCURATE TIGHTENINGS
- HIGH REPEATABILITY



2 torque control, screws counting.

- TRACS CLUTCH
- ACCURATE TIGHTENINGS
- HIGH REPEATABILITY
- COUNTING OF TIGHTENED SCREWS
- OK / KO CYCLE
- MONITORING OF THE TIGHTENING TIME



3 torque control, screws counting, joint monitoring.

- TRACS CLUTCH
- ACCURATE TIGHTENINGS
- HIGH REPEATABILITY
- COUNTING OF TIGHTENED SCREWS
- OK / KO CYCLE
- MONITORING OF THE TIGHTENING TIME
- JOINT MONITORING WITH BUILT-IN TRANSDUCER

Angle nutrunner



Solution with TOM-PM monitoring unit



Solution with TOCS-TC control unit

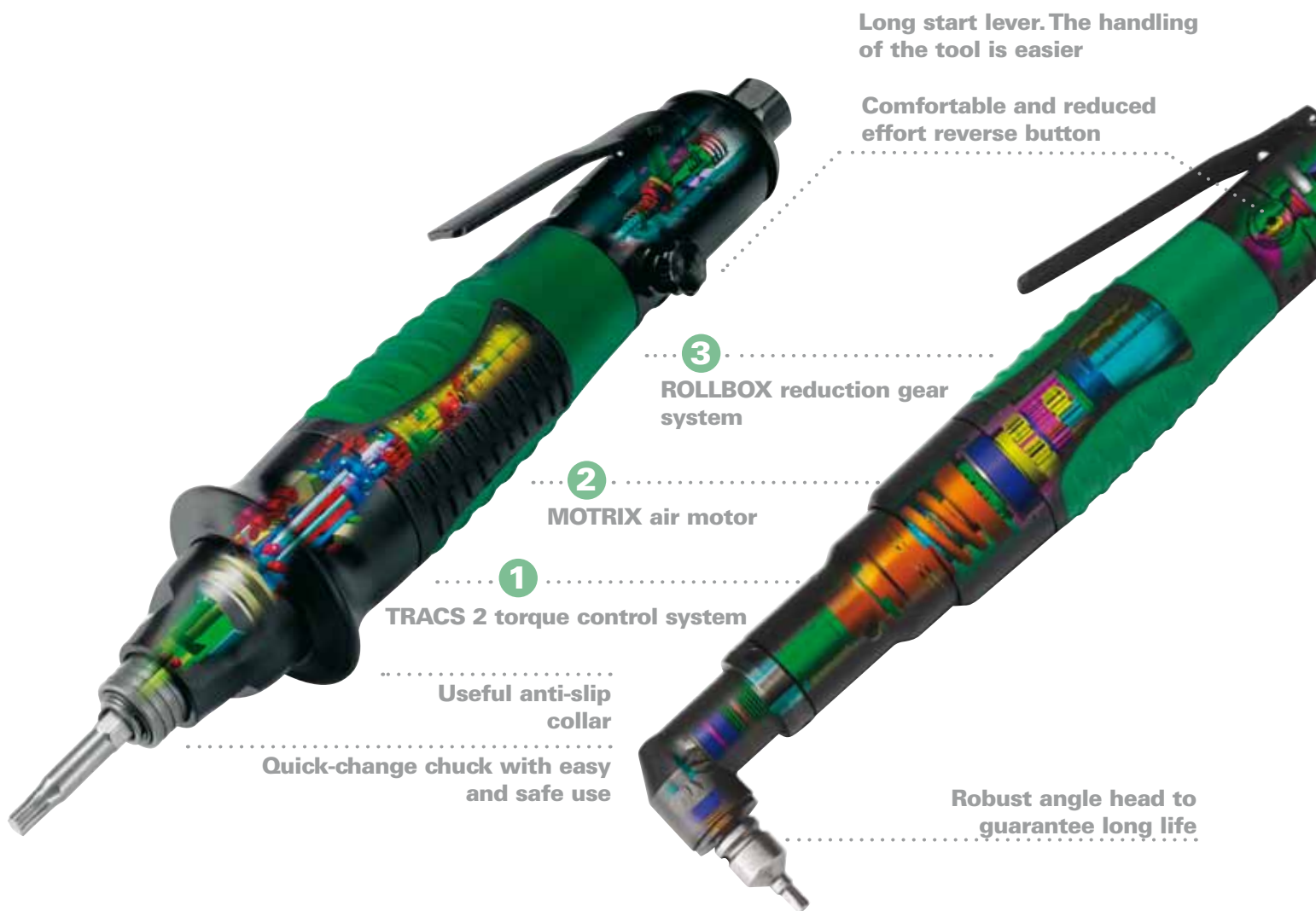


An eye for innovation, a glance to the future.

For 60 years Fiam has been moving towards the **future** and **research**. So it has designed the modern 15C air screwdrivers/nutrunners, increasing quality and performances.

Straight, pistol and angle tools are characterized by **their extreme handiness and ergonomic grip**: ideal for working with high productivity and minimum effort.

Modern solutions ideal in **mechanical, electrical, electronics and furniture fields**.





Our name, your guarantee. For each model.

- 1 Patented **TRACS2** torque control system; it guarantees high torque repeatability and vibration levels below 2,5 m/s².
 - 2 Technologically advanced **MOTRIX** air motor, ensuring higher performances.
 - 3 **ROLLBOX** reduction gear system, ensuring high output.
 - Practical cycle end acoustic signal.
 - Reduced weight thanks to the use of light alloys.
 - Hanging ring for balancer use.
 - Safe, practical and precise clutch adjustment system.
 - Predisposition for pneumatic pick-up signal.
 - Possibility of conveying air exhaust.
 - Recyclable materials.
- OIL FREE**, the possibility of using non lubricated air eliminates the emission of oil fog into the environment.



Be demanding

Don't be satisfied
with the maximum

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

1 TRACS2 (Torque Repeatability and Accuracy Control System): the torque control system ensures a very **high torque repeatability**, i.e. a very low Mean Shift value also in the presence of variability of the joint softness level.

This system maintains same torque values for hundreds of thousands of cycles. TRACS2 system guarantees a **high quality improvement** in the tightening process

2 MOTRIX: newly conceived air motor ensures **long lifetime, high specific power and maximum torque**

3 ROLLBOX: reduction gear system has been designed to guarantee **maximum output, long lifetime of the kinematic chain and reduced noise level**

30° and 90° angle heads: construction materials ensure **high resistance** and long life

Antislip varnishing for the **start lever** which makes it **longer lasting**

Productivity

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

1 TRACS2: the modern torque control system reduces to a minimum level the need of quality control at the end of the assembly process, with a remarkable **increase of the tightening cycle productivity**

2 MOTRIX: high rotating speed of the air motor with equal tightening torque, with evident **reduction of tightening cycle time**

Cycle end acoustic signal: it permits the operator to **pass on to the next tightening cycle more rapidly**

Grip design: it permits **extraordinary ease in handling** the tool with **less operator fatigue** and significant increase of the productivity

Pneumatic pick up signal: the tools are arranged to be **easily interfaced** with electronic torque control TOCS (Tightening Operations Control System) and/or on line PLC systems

Quick change chuck for straight and pistol models: it favours **easier and safer** bit replacement; it is available upon request, also for use of double insert bits

Clutch adjustment system: safe, practical and accurate

Extremely compact heads for angle models: they are indispensable when space is limited or where access is difficult, such as up against walls, close to metal sections, profiles and inside of components



Perfection is
in your hands

Ergonomics

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

Minimal dimensions: these tools can be used in every position and when space is limited. Their **handling is guaranteed** because the grip is very near to the tool's head

Weight: extremely reduced weight and **compact dimensions** guarantee perfect handling

Ergonomic grips: designed according to modern biomechanics principles paying particular attention to the features of the female hand. The grips are manufactured with an ergonomic sheath made of bi-component material of different type, density and relief (for straight and angle models) and made of no slip material (for pistol models), making them easier to hold the tool, increasing the hand grip, **improving the handling, the thermal isolation and operator's comfort**

Comfortable low effort reverse button (for straight and angle models) / cursor (for pistol models): they reduce finger fatigue; they can be used by both right and left hand operators

TRACS2: the modern torque control system **reduces the reaction to the operator's hand**. Thanks to the immediate automatic air shut-off system with the careful study of the internal gears, the vibration levels are below $2,5 \text{ m/s}^2$ (ISO 8662-7)

"Forward" pistol grip: indicated when balancing systems cannot be used and where it does not need a particular push along the fastening axis



'FORWARD' PISTOL GRIP

Pistol grip: indicated for situations in which screwdriving operations require thrust along the screwdriving axis

Possibility of conveying air exhaust away from the operator

Long start lever for angle models: the **handling of the tool** is easier reducing fatigue and the effort of the operator

Anti-slip collar for straight and angle models: it avoids that the hand slips towards the tightening point, above all in case of big thrust on the screw, **increasing the safety and reducing the operator's fatigue**

Patented silencing system: these tools are extremely noiseless and are equipped with a controlled spread of the exhaust air

Hanging ring for balancer use eliminating any operator's effort



PISTOL GRIP

Naturally
innovative

Ecology

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

1 TRACS2: the torque control system has a high running speed which, together with the push-to-start system, **reduces the working time of the tool and the compressed air consumption**

2 MOTRIX: the advanced technological design of the air motor permits **very high decrease of compressed air consumption**, without affecting tool performance

3 ROLLBOX: thanks to the new inner kinematic motions which optimize efficiency, the available power is being transmitted with **minimum dispersions**

15C screwdrivers/nutrunners work at maximum efficiency without need of lubrication guaranteeing in such the **absence of oil exhaust** into the working environment



ECO-CONTRIBUTION WEEE ACQUITTED:

Fiam carries out its obligations of producer, with full respect for the environment, and **without any extra charge for the customer**

ERGOTECH



Ergotech Project

Having full knowledge of the ergonomics needs and of the safety of the operator, Fiam optimizes the performances of its tools and offers consulting and qualified training for the correct use of the tools

Type of screwdriver / nutrunner		Grip	Tightening torque on soft joint		Idle speed	Starting system	Reversibility	Weight	Dimensions (mm)	Air consumption	Accessories	Noise level*	Vibrations	
Model	Code		Type	Nm										in lb
15C2A	112514372	↓	0,4 ÷ 2,0	3.54 ÷ 177	2000	↓	↻	0,58	1.28	38x230	4,0	⬡ F 1/4"	73	<2,5
15C3A	112514373	↓	0,4 ÷ 3,5	3.54 ÷ 30.975	1400	↓	↻	0,59	1.30	38x230	5,5	⬡ F 1/4"	73	<2,5
15C4A	112514374	↓	0,4 ÷ 4,5	3.54 ÷ 39.825	950	↓	↻	0,59	1.30	38x230	5,5	⬡ F 1/4"	73	<2,5
15C5A	112514375	↓	0,4 ÷ 5,0	3.54 ÷ 44.25	650	↓	↻	0,59	1.30	38x230	5,5	⬡ F 1/4"	73	<2,5
15C2AL	112514382	↓	0,4 ÷ 2,0	3.54 ÷ 177	2000	↑	↻	0,59	1.30	38x228	4,0	⬡ F 1/4"	73	<2,5
15C3AL	112514383	↓	0,4 ÷ 3,5	3.54 ÷ 30.975	1400	↑	↻	0,60	1.32	38x228	5,5	⬡ F 1/4"	73	<2,5
15C4AL	112514384	↓	0,4 ÷ 4,5	3.54 ÷ 39.825	950	↑	↻	0,60	1.32	38x228	5,5	⬡ F 1/4"	73	<2,5
15C5AL	112514385	↓	0,4 ÷ 5,0	3.54 ÷ 44.25	650	↑	↻	0,60	1.32	38x228	5,5	⬡ F 1/4"	73	<2,5

Model	Code	Type	Nm	in lb	rpm	Type	Type	kg	lb	Ø x l x h	l/s	Drive	dBA	m/s ²
15C2APA	112514522	↘	0,6 ÷ 2,2	5.31 ÷ 19.47	2200	↘	↻	0,70	1.540	31x178x156	6	⬡ F 1/4"	71	<2,5
15C3APA	112514523	↘	0,4 ÷ 3,5	3.54 ÷ 30.975	1400	↘	↻	0,72	1.584	31x178x156	6	⬡ F 1/4"	71	<2,5
15C4APA	112514524	↘	0,4 ÷ 4,5	3.54 ÷ 39.825	950	↘	↻	0,72	1.584	31x178x156	6	⬡ F 1/4"	71	<2,5
15C5APA	112514525	↘	0,4 ÷ 5,0	3.54 ÷ 44.25	650	↘	↻	0,72	1.584	31x178x156	6	⬡ F 1/4"	71	<2,5
15C2AP	112514532	↘	0,6 ÷ 2,2	5.31 ÷ 19.47	2200	↘	↻	0,70	1.540	37x209x157	6	⬡ F 1/4"	71	<2,5
15C3AP	112514533	↘	0,4 ÷ 3,5	3.54 ÷ 30.975	1400	↘	↻	0,72	1.584	37x209x157	6	⬡ F 1/4"	71	<2,5
15C4AP	112514534	↘	0,4 ÷ 4,5	3.54 ÷ 39.825	950	↘	↻	0,72	1.584	37x209x157	6	⬡ F 1/4"	71	<2,5
15C5AP	112514535	↘	0,4 ÷ 5,0	3.54 ÷ 44.25	650	↘	↻	0,72	1.584	37x209x157	6	⬡ F 1/4"	71	<2,5

Model	Code	Type	Nm	in lb	rpm	Type	Type	kg	lb	l/s	Drive	dBA	m/s ²
15C2A90	112593942	↘	0,8 ÷ 2	7.08 ÷ 177	2000	↘	↻	0,70	1.54	4,0	⬡ M 1/4"	73	<2,5
15C3A90	112593943	↘	0,8 ÷ 3	7.08 ÷ 26.55	1400	↘	↻	0,70	1.54	5,5	⬡ M 1/4"	73	<2,5
15C4A90	112593944	↘	0,8 ÷ 4	7.08 ÷ 35.4	950	↘	↻	0,70	1.54	5,5	⬡ M 1/4"	73	<2,5
15C5A90	112593945	↘	0,8 ÷ 5	7.08 ÷ 44.25	650	↘	↻	0,70	1.54	5,5	⬡ M 1/4"	73	<2,5
15C2A30	112533942	↘	0,8 ÷ 2	7.08 ÷ 177	2000	↘	↻	0,70	1.54	4,0	⬡ M 1/4"	73	<2,5
15C3A30	112533943	↘	0,8 ÷ 3	7.08 ÷ 26.55	1400	↘	↻	0,70	1.54	5,5	⬡ M 1/4"	73	<2,5
15C4A30	112533944	↘	0,8 ÷ 4	7.08 ÷ 35.4	950	↘	↻	0,70	1.54	5,5	⬡ M 1/4"	73	<2,5
15C5A30	112533945	↘	0,8 ÷ 5	7.08 ÷ 44,25	650	↘	↻	0,70	1.54	5,5	⬡ M 1/4"	73	<2,5

Legend

15 = Power of the motor in Watt/10 • C = Screwdriver/Nutrunner • 2 = Maximum tightening torque in Nm • A = Air shut-off system • L = Lever • P = Pistol grip
 • 30 = Head at 30° • 90 = Head at 90° • PA = 'Forward' pistol grip

Legend

↻ **Reversibility:** all models are suitable for tightening and untightening operations

↓ **Push start**

↑ **Lever start**

↘ **Push button**

↘ **Push button**

↘ **Lever start**

- The figures shown are measured at a pressure of 6,3 bar (ISO 2787) the recommended operating pressure.
- Tightening torque values have been measured in accordance with ISO 5393 standard.
- Noise level has been measured in accordance with ISO 3744 and ISO 15744 standards.
- * Additional factor: 3 dBA spread in method and production (ISO 15744).
- Vibrations level have been measured in accordance with ISO 8662-1 and ISO 8662-7 standards.
- Accessory drive: male square drive (ISO 1174); female hexagonal drive 1/4"; 6,35 mm (ISO 1173).
- The code number must be used when ordering.

The data given in the table are indicative and can be changed without prior notice. 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, by the pressure and quantity of air supply, and by the type of accessory used. The values indicated for noise and vibration levels were obtained in the laboratory, performing tests that comply with the standards stated, but alone are not sufficient for calculating risks. Values measured in the single work places may be higher than those stated. The values of actual exposure and consequent risks are specific and depend on the operator's method of work, the type of work piece and the work place, as well as the operator's time of exposure and his physical conditions. Fiam cannot be held responsible for any consequences deriving from the use of the information in the table when evaluating risks in the work place over which Fiam has no control. For all further details, please apply to the Fiam Technical Consultancy Service.

Other technical features

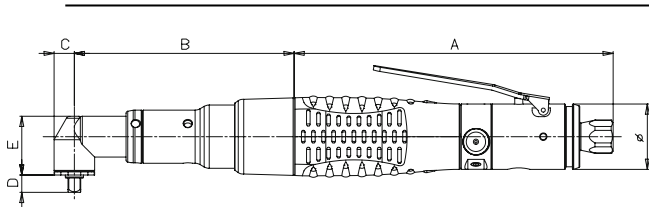
TRACS2
clutch spring

Assembled on the tool
grey colour - Ø wire 3,2 mm
Code 595103202

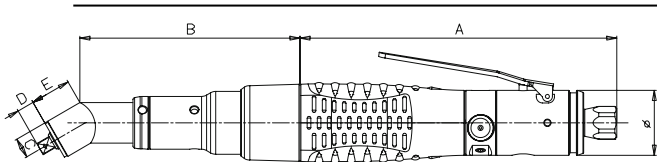
Supplied
black colour - Ø wire 2,2 mm
Code 595102204

Model	Tightening torque on soft joint (Nm)	Tightening torque on soft joint (Nm)
15C...	0,8 ÷ at MAX torque	From min torque ÷ 1,2

Dimensions (mm)



Models	A	B	C	D	E	Ø
15C2A90	157	109	10	8,5	29	32
15C3A90	157	109	10	8,5	29	32
15C4A90	157	109	10	8,5	29	32
15C5A90	157	109	10	8,5	29	32



Models	A	B	C	D	E	Ø
15C2A30	157	109	10	8,5	20	32
15C3A30	157	109	10	8,5	20	32
15C4A30	157	109	10	8,5	20	32
15C5A30	157	109	10	8,5	20	32

Other technical features

Models	Air inlet	Recommended hose bore
15C...	1/4" gas	Ø 5 mm



15C air screwdrivers/nutrunners are designed for use with lubricated and unlubricated compressed air

Standard equipment (supplied with the tool)

- Clutch adjustment key
- Additional clutch spring (only for straight and pistol models)
- Hanging ring
- Use and maintenance manual
- Eco-friendly packaging

Accessories available upon request

- Bits, sockets, etc., balancers, exhaust silencers and other compressed air system accessories: (see Accessories catalogue)
- Collar bracket for arm stands (code 692039006) to be used with straight models

Models available upon request

Accessory	Straight models	Pistol models	Angle models
Lever models for left hand operators	X		X
Models with anti-slip collar with different dimensions	X		
Models with only right hand rotation	X	X	X
Models with only left hand rotation	X	X	X
Models with lever + push start (or push button + push start)	X	X	
Models for double insert bits	X	X	X
Models with screws function	X	X	
Models with low speeds	X	X	X
Models with a female hexagonal drive for inserts (BITS): when ordering, add BITS at the end of the code (e.g. 15C2A...->15C2A...-BITS)			X
Models with quick change chuck	standard	standard	X
15C-...LT models for low torques	X	X	X

0% error, 100% accuracy.

Did you lose any screws? The '**screws count**' function will help you: therefore in case of high production rate, you won't risk any omission. Moreover, the feed-back signal and the end one to pass to next piece **accelerate the production cycles and ensure control on the assembled products**. So dead times will decrease and quality will increase.

The solution includes:

- lever or push button air shut-off **15C SCREWDRIVERS/ NUTRUNNERS** equipped with **pneumatic pick-up signal (ported)**
- **COMPUTERIZED MONITORING UNIT TOM-PM** (Torque Operation Monitor - Pressure Monitoring): it allows the **monitoring of the tightening cycle through the double-signal pressure** coming from the screwdrivers, subsequently converted into electric signal.



A proved system against pressure changes.

The use of two pneumatic signals (tool start and clutch operated) guarantees the system functioning **regardless of the pressure changes**, critical point in many production lines. A considerable advantage in respect to other poka-yoke systems, which are more difficult to programme and use a single signal: the pressure difference when torque is obtained.

Features of the monitoring unit TOM-PM (Torque Operation Monitor - Pressure Monitoring)

- It is possible to set **1 sequence of tightening** through internal PLC
- Tightening sequence can contain **up to 999 screws**
- It is possible to **program the maximum number of tightening attempts** for KO screws
- **Automatic check of tightening time** which can be adjusted by setting the cycle time thus discriminating the different KO results
- **PLC programming keypad:** user friendly
- **Visual indicators of the tightening status** positioned on the front panel of the unit
- **Acoustic signal:**
short → tightening **OK**,
long → tightening **KO**
- **Reset cycle or releasing pallet/jig** with key selector or PLC
- **Electric signal for "end cycle OK"** to release pallet/jig (or manual with key selector)
- **Last tightening annulated through button:** decrease on counter in case of untightening (when for example the piece has not been positioned)
- **I/O Connectors** with contact to 24 Volt d.c. (max 0,5A for connection to PLC and/or to light signal systems)
- The unit can be connected only to one air tool equipped with **shut-off clutch, lever or push button (not push start) and double-signal pressure** (START AND TORQUE)
- **Electric feed:** 110/220VAC, 50/60Hz
- **Extremely compact:** 230x200x130 mm
- **Weight:** 2,0 Kg


Operation	Led-lights on the TOM-PM front panel
Tightening OK	TIGHTENING OK: green led-light
Tightening sequence set	CYCLE END: yellow led-light TIGHTENING OK: green led-light
Fastening a screw already tightened	TIGHTENING KO: red led-light
Number of tightened screws	Counter on display
Number of tightenings KO	Counter on display
Screw stripping	TIGHTENING KO: red led-light, increase on counter KO and signal on display "T>T_MAX"
Releasing of the lever before the tightening is completed	Neither signal nor increase on the screw counter
Screw getting stuck; partial thread; presence of different joint among foreseen joint types (clutch operated before minimum time set)	TIGHTENING KO: red led-light, increase on counter KO and signal on display "T<T_MIN"
Presence of different joint among foreseen joint types (clutch operated after maximum time set)	TIGHTENING KO: red led-light, increase on counter KO and signal on display "T>T_MAX"

Model	Code	Type	Tightening torque on soft joint		Idle speed	Starting system	Reversibility	Weight		Dimensions (mm)	Air consumption	Accessories	Noise level*	Vibrations
			min	max				min	max					
15C2AL - 2CS	112509891	—	0,4 + 2,0	3.54 + 177	2000	—	↺	0,59	1,30	38x228	4	⊕ F 1/4"	73	<2,5
15C3AL - 2CS	112509892	—	0,4 + 3,5	3.54 + 30.975	1400	—	↺	0,60	1,32	38x228	5,5	⊕ F 1/4"	73	<2,5
15C4AL - 2CS	112509893	—	0,4 + 4,5	3.54 + 39.825	950	—	↺	0,60	1,32	38x228	5,5	⊕ F 1/4"	73	<2,5
15C5AL - 2CS	112509894	—	0,4 + 5,0	3.54 + 44.25	650	—	↺	0,60	1,32	38x228	5,5	⊕ F 1/4"	73	<2,5
15C2AP - 2CS	112509895	↙	0,6 + 2,2	5.31 + 19.47	2200	↙	↺	0,70	1,54	37x209x157	6	⊕ F 1/4"	71	<2,5
15C3AP - 2CS	112509896	↙	0,4 + 3,5	3.54 + 30.975	1400	↙	↺	0,72	1,58	37x209x157	6	⊕ F 1/4"	71	<2,5
15C4AP - 2CS	112509829	↙	0,4 + 4,5	3.54 + 39.825	950	↙	↺	0,72	1,58	37x209x157	6	⊕ F 1/4"	71	<2,5
15C5AP - 2CS	112509830	↙	0,4 + 5,0	3.54 + 44.25	650	↙	↺	0,72	1,58	37x209x157	6	⊕ F 1/4"	71	<2,5
15C2APA - 2CS	112509899	↙	0,6 + 2,2	5.31 + 19.47	2200	↙	↺	0,70	1,54	31x178x156	6	⊕ F 1/4"	71	<2,5
15C3APA - 2CS	112509900	↙	0,4 + 3,5	3.54 + 30.975	1400	↙	↺	0,72	1,58	31x178x156	6	⊕ F 1/4"	71	<2,5
15C4APA - 2CS	112509876	↙	0,4 + 4,5	3.54 + 39.825	950	↙	↺	0,72	1,58	31x178x156	6	⊕ F 1/4"	71	<2,5
15C5APA - 2CS	112509883	↙	0,4 + 5,0	3.54 + 44.25	650	↙	↺	0,72	1,58	31x178x156	6	⊕ F 1/4"	71	<2,5
15C2A30 - 2CS	112509903	↙ ^{30°}	0,8 + 2,0	708 + 177	2000	↙	↺	0,70	1,54	see on page 9	4	□ M 1/4"	73	<2,5
15C3A30 - 2CS	112509904	↙ ^{30°}	0,8 + 3,0	708 + 26.55	1400	↙	↺	0,70	1,54	see on page 9	5,5	□ M 1/4"	73	<2,5
15C4A30 - 2CS	112509905	↙ ^{30°}	0,8 + 4,0	708 + 35.4	950	↙	↺	0,70	1,54	see on page 9	5,5	□ M 1/4"	73	<2,5
15C5A30 - 2CS	112509906	↙ ^{30°}	0,8 + 5,0	708 + 44.25	650	↙	↺	0,70	1,54	see on page 9	5,5	□ M 1/4"	73	<2,5
15C2A90 - 2CS	112509907	↙ ^{90°}	0,8 + 2,0	708 + 177	2000	↙	↺	0,70	1,54	see on page 9	4	□ M 1/4"	73	<2,5
15C3A90 - 2CS	112509908	↙ ^{90°}	0,8 + 3,0	708 + 26.55	1400	↙	↺	0,70	1,54	see on page 9	5,5	□ M 1/4"	73	<2,5
15C4A90 - 2CS	112509909	↙ ^{90°}	0,8 + 4,0	708 + 35.4	950	↙	↺	0,70	1,54	see on page 9	5,5	□ M 1/4"	73	<2,5
15C5A90 - 2CS	112509910	↙ ^{90°}	0,8 + 5,0	708 + 44.25	650	↙	↺	0,70	1,54	see on page 9	5,5	□ M 1/4"	73	<2,5


Legend

15 = Power of the motor in Watt/10 • C = Screwdriver/Nutrunner • 2 = Maximum tightening torque in Nm • A = Air shut-off system • L = Lever • P = Pistol grip
 • 30 = Head at 30° • 90 = Head at 90° • 2CS = Double-signal pressure

Legend

 **Reversibility:** all models are suitable for tightening and untightening operations

 **Lever**

 **Push button**

- The figures shown are measured at a pressure of 6,3 bar (ISO 2787) the recommended operating pressure.
- Tightening torque values have been measured in accordance with ISO 5393 standard.
- Noise level has been measured in accordance with ISO 3744 and ISO 15744 standards.
- * Additional factor: 3 dBA spread in method and production (ISO 15744).
- Vibrations level have been measured in accordance with ISO 8662-1 and ISO 8662-7 standards.
- Accessory drive: male square drive (ISO 1174); female hexagonal drive 1/4", 6,35 mm (ISO 1173).
- The code number must be used when ordering.

The data given in the table are indicative and can be changed without prior notice. 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, by the pressure and quantity of air supply, and by the type of accessory used. The values indicated for noise and vibration levels were obtained in the laboratory, performing tests that comply with the standards stated, but alone are not sufficient for calculating risks. Values measured in the single work places may be higher than those stated. The values of actual exposure and consequent risks are specific and depend on the operator's method of work, the type of work piece and the work place, as well as the operator's time of exposure and his physical conditions. Fiam cannot be held responsible for any consequences deriving from the use of the information in the table when evaluating risks in the work place over which Fiam has no control. For all further details, please apply to the Fiam Technical Consultancy Service.

Standard equipment (supplied with the tool)

- Clutch adjustment key
- Additional clutch spring (only for straight and pistol models)
- Hanging ring
- Use and maintenance manual.
- Eco-friendly packaging.

Accessories available upon request

- Bits, sockets, etc., balancers, exhaust silencers and other compressed air system accessories (see Accessories catalogue)
- Collar bracket for arm stands (code 692039006) for straight models

Model

Monitoring unit TOM-PM

Code

685001057

Dimensions (mm)

230 X 200 X 130

Electric feed

110/220 V, 50/60 HZ

Standard equipment (supplied with unit)

- Kit of pressure switches (cod. 685001058) with pneumatic hoses and electric cable length to 3,0 mt.
- Power cord
- IN connector for unit operation
- Use and maintenance manual
- Eco-friendly packaging

Accessories available upon request

- 3 colors tower-light providing the same display light signals of the unit's led-lights (supplied with 3,0 mt long cable): cod. 686000606

Models available upon request

- Customized models available. For example: models provided with tightening/untightening/cycle end features, suitable for use with autofed tightening unit NCA (see cat.) or providing tightening sequence monitoring for more screwdrivers used by only one operator. For further information please contact **Fiam Technical Consultancy Service**

**Screwdrivers/nutrunners with TRACS2
torque control + screws counting + joint monitoring**

Joint monitoring: everything under control.

Are you looking for total reliability? You have just found it. When tightenings are difficult, **15C tools and the computerised torque monitoring TOCS-TC** guarantee an extraordinary quality and eliminate the possibility of error during the tightening cycle. Nothing will pass unnoticed: the cycle is monitored, the torque values are under control and the production waste is reduced to the minimum level.

The solution includes:

- **15C AIR SCREWDRIVERS/
NUTRUNNERS:**
the built-in strain gauge torque transducer converts the torque applied to the single joints into an electrical signal which is then processed by the TOCS-TC computerised unit
- **COMPUTERISED
CONTROL UNIT
TOCS-TC:** it defects and stores the tightening torque value, displays the cycle results (OK and KO) and monitors the tightening cycle through torque/time values, that can be easily stored.





TOCS-TC COMPUTERIZED UNIT

- **Available in two versions** with alphanumerical display (TOCS-TC...A) and graphic display (TOCS-TC...G); the latter allows the torque-time curve to be visualised.
- **In the version TOCS-TC-2CH it can be connected to two tools**, even different, working synchronically or asynchronously.

TOCS-TC unit (Tightening Operation-Control-System-Torque Control): technical features

The complete and simple programming menus offer:

- Up to **20 programme** settings (MIN torque, MAX torque, MIN time, MAX time) and password protection;
- Tightening sequences settings with a maximum of 99 screws and a maximum number of repetitions in the event of a reject.

The I/O's of the unit offer:

- OK/KO signalling for each cycle and general OK/KO (end-of-sequence);
- 3 user configurable on-line printing modes;
- The type of possible rejects required can be detected through the correct programming of tightening cycle;
- The internal memory stores torque/time/result data concerning the last 1,000 tightening cycles (circular buffer);
- The system can be networked (proprietary protocol) with supervision (programming + data acquisition) and optional software.

Technical features

- **Built-in membrane programming** keyboard
- **Electrically powered (a.c.);** if power is interrupted, the data **memory** is maintained by a battery
- **Illuminated liquid crystal display** with 4 lines of 20 characters (version ...A) or graphic (version ...G)
- **RS232 output and LPT output** for connection to printer.
- **Visual indicators for signalling tightening status**, located on the panel:
RED = Tightening KO (incorrect)
GREEN = Tightening OK (correct) + pallet release signal
- **I/O connectors** with contacts powered at 24 Vdc (max. 0.5A) for connection to PLC and/or signal lights to indicate OK and KO tightening

Type of screwdriver/nutrunner		Tightening torque on soft joint		Idle speed	Starting system	Reversibility	Weight	Dimensions (mm)	Air consumption	Accessories	Noise level*	Vibrations					
Model	Code	Grip	Type										min. Nm	max. Nm	min. in lb	max. in lb	rpm
15C2AL - TC	upon request		1	0,4 ÷ 2,0	3.54 ÷ 177	2000			0,59	1,30	38x228	4	⊕ F 1/4"	73	<2,5		
15C3AL - TC	upon request		1	0,4 ÷ 3,5	3.54 ÷ 30.975	1400			0,60	1,32	38x228	5,5	⊕ F 1/4"	73	<2,5		
15C4AL - TC	upon request		1	0,4 ÷ 4,5	3.54 ÷ 39.825	950			0,60	1,32	38x228	5,5	⊕ F 1/4"	73	<2,5		
15C5AL - TC	upon request		1	0,4 ÷ 5,0	3.54 ÷ 44.25	650			0,60	1,32	38x228	5,5	⊕ F 1/4"	73	<2,5		
15C2AP - TC	upon request		1	0,6 ÷ 2,2	5.31 ÷ 19.47	2200			0,70	1,54	37x209x157	6	⊕ F 1/4"	71	<2,5		
15C3AP - TC	upon request		1	0,4 ÷ 3,5	3.54 ÷ 30.975	1400			0,72	1,58	37x209x157	6	⊕ F 1/4"	71	<2,5		
15C4AP - TC	upon request		1	0,4 ÷ 4,5	3.54 ÷ 39.825	950			0,72	1,58	37x209x157	6	⊕ F 1/4"	71	<2,5		
15C5AP - TC	upon request		1	0,4 ÷ 5,0	3.54 ÷ 44.25	650			0,72	1,58	37x209x157	6	⊕ F 1/4"	71	<2,5		
15C2APA - TC	upon request		1	0,6 ÷ 2,2	5.31 ÷ 19.47	2200			0,70	1,54	31x178x156	6	⊕ F 1/4"	71	<2,5		
15C3APA - TC	upon request		1	0,4 ÷ 3,5	3.54 ÷ 30.975	1400			0,72	1,58	31x178x156	6	⊕ F 1/4"	71	<2,5		
15C4APA - TC	upon request		1	0,4 ÷ 4,5	3.54 ÷ 39.825	950			0,72	1,58	31x178x156	6	⊕ F 1/4"	71	<2,5		
15C5APA - TC	upon request		1	0,4 ÷ 5,0	3.54 ÷ 44.25	650			0,72	1,58	31x178x156	6	⊕ F 1/4"	71	<2,5		
15C2A30 - TC	upon request		30°	0,8 ÷ 2,0	708 ÷ 177	2000			0,70	1,54	see on page 9	4	⊕ M 1/4"	73	<2,5		
15C3A30 - TC	upon request		30°	0,8 ÷ 3,0	708 ÷ 26.55	1400			0,70	1,54	see on page 9	5,5	⊕ M 1/4"	73	<2,5		
15C4A30 - TC	upon request		30°	0,8 ÷ 4,0	708 ÷ 35.4	950			0,70	1,54	see on page 9	5,5	⊕ M 1/4"	73	<2,5		
15C5A30 - TC	upon request		30°	0,8 ÷ 5,0	708 ÷ 44.25	650			0,70	1,54	see on page 9	5,5	⊕ M 1/4"	73	<2,5		
15C2A90 - TC	upon request		90°	0,8 ÷ 2,0	708 ÷ 177	2000			0,70	1,54	see on page 9	4	⊕ M 1/4"	73	<2,5		
15C3A90 - TC	upon request		90°	0,8 ÷ 3,0	708 ÷ 26.55	1400			0,70	1,54	see on page 9	5,5	⊕ M 1/4"	73	<2,5		
15C4A90 - TC	upon request		90°	0,8 ÷ 4,0	708 ÷ 35.4	950			0,70	1,54	see on page 9	5,5	⊕ M 1/4"	73	<2,5		
15C5A90 - TC	upon request		90°	0,8 ÷ 5,0	708 ÷ 44.25	650			0,70	1,54	see on page 9	5,5	⊕ M 1/4"	73	<2,5		

Legend

15 = Power of the motor in Watt/10 • C = Screwdriver/Nutrunner • 2 = Maximum tightening torque in Nm • A = Air shut-off system • L = Lever • P = Pistol grip • PA = 'forward' pistol grip • 30° = Head at 30° • 90° = Head at 90° • TC = Torque Control

Legend

Reversibility: all models are suitable for tightening and untightening operations

Lever start
Push button

- The figures shown are measured at a pressure of 6.3 bar (ISO 2787), the recommended operating pressure.
- Tightening torque values have been measured in accordance with ISO 5393 standard.
- Noise level has been measured in accordance with ISO 3744 and ISO 15744 standards.
- *Additional factor: 3 dBA spread in method and production (ISO 15744).
- Vibrations level have been measured in accordance with ISO 8662-1 and ISO 8662-7 standards.
- Accessory drive: male square drive (ISO 1174); female hexagonal drive 1/4", 6,35 mm (ISO 1173).
- The code number must be used when ordering..

The data given in the table are indicative and can be changed without prior notice. 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, by the pressure and quantity of air supply, and by the type of accessory used. The values indicated for noise and vibration levels were obtained in the laboratory, performing tests that comply with the standards stated, but alone are not sufficient for calculating risks. Values measured in the single work places may be higher than those stated. The values of actual exposure and consequent risks are specific and depend on the operator's method of work, the type of work piece and the work place, as well as the operator's time of exposure and his physical conditions. Fiam cannot be held responsible for any consequences deriving from the use of the information in the table when evaluating risks in the work place over which Fiam has no control. For all further details, please apply to the Fiam Technical Consultancy Service.

Standard equipment (supplied with the tool)

- Clutch adjustment key
- Additional clutch spring (only for straight and pistol models)
- Hanging ring
- Use and maintenance manual
- Eco-friendly packaging
- 5m connection cable, required to connect the screwdriver to the control unit (code 676300195)

Accessories available upon request

- Bits, sockets, etc., balancers, exhaust silencers and other compressed air system accessories (see Accessories catalogue)
- Collar bracket for arm stands (code 692039006) for straight models

Model	Description	Code	Dimensions (mm) Width x Depth x h
TOCS-TC 1CH A	Control unit	686000131	210x330x125
TOCS-TC 2CH A	Control unit	686000132	210x330x125
TOCS-TC 1CH G	Control unit	686000133	210x330x125
TOCS-TC 2CH G	Control unit	686000134	210x330x125

Legend

TOCS -TC= Tightening Operations Control System - Torque Control • 1 CH = 1 channel for connection to one tool • 2CH = 2 channels for connection to two different or similar tools, working synchronically or asynchronously • A = alphanumeric display • G = graphic display

Standard equipment (supplied with unit)

- 2m electric power cable
- Use and maintenance manual
- Eco-friendly packaging

Accessories available upon request

- OK/KO signal light column with built-in buzzer (code 686000182)
- Transport handle

Models available upon request

- Version with network board for communicating with specific software (computerised unit programming + data acquisition).

The advantages of a customized product

If your needs change, it is important to rely on customized solutions. **All products can be customized to different production needs, without losing efficiency.**

Fiam technicians are ready to listen to you and to transform your problems into solutions.

Smaller screws, lower torque

Do you need to tighten small screws? No problem, **the 15C models arrive up to 0.2 Nm.**

Low torques ideal to assemble electronic and plastic components.



Low speed, high performances

When working with stainless steel and with particularly difficult tightenings, it is fundamental to have low speeds.

15C models can satisfy your needs: **upon request they can be customized with different speeds than the ones indicated on our catalogue.**



Efficacy thanks to the screws suction device

Do you have non-magnetised **stainless screws**?

You can rely on our **screws suction devices**. Simply connect the 15C tools to a vacuum pump: the special head makes handling and positioning of the screws easier and safer. Moreover the heads can be customized.

The piece to be assembled has changed?

You will always have a made to measure instrument.



Fiam[®]
PEOPLE AND SOLUTIONS

Fiam Utensili Pneumatici Spa
Viale Crispi 123 - 36100 Vicenza - Italy
Tel. +39.0444.385000
Fax +39.0444.385002

customerservice@fiamairtools.com
www.fiamairtools.com



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