

**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**<sup>®</sup>  
PEOPLE AND SOLUTIONS

## 15C air screwdrivers and nutrunners

# 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 control levels 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.

PAGE 4

## Level 1

### Screwdrivers and nutrunners with TRACS2 torque control

Accurate, reliable, constant tightenings, cycle after cycle.  
High torque repeatability on hard and soft joints.

PAGE 10

## 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.

PAGE 12

## 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.

- TRACS2 CLUTCH
- ACCURATE TIGHTENINGS
- HIGH REPEATABILITY



## 2 torque control, screws counting.

- TRACS2 CLUTCH
- ACCURATE TIGHTENINGS
- HIGH REPEATABILITY
- COUNTING OF TIGHTENED SCREWS
- OK / KO CYCLE
- MONITORING OF THE TIGHTENING TIME



## 3 torque control, screws counting, joint monitoring.

- TRACS2 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 monitoring unit



Solution with TOCS-TC control unit



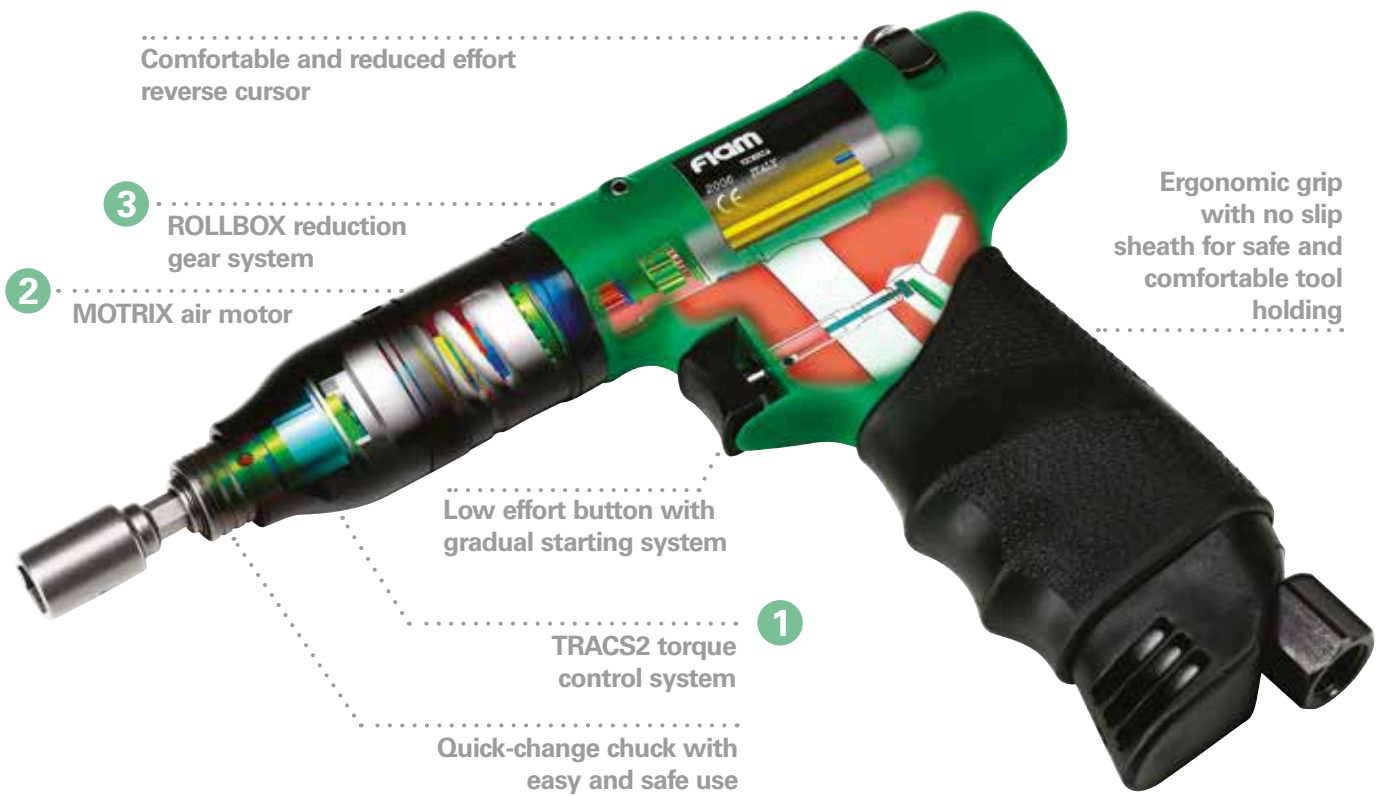
# An eye for innovation, a glance to the future.

For over 65 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/s<sup>2</sup>.
  - 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.
    - 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

**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 m/s<sup>2</sup>

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



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 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



'FORWARD' 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**



Mod. BT10  
DIFFERENT ACCESSORIES TO IMPROVE  
ERGONOMIC WORKPLACES

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 <sup>2</sup>
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 <sup>2</sup>
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 28927-2.
- 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

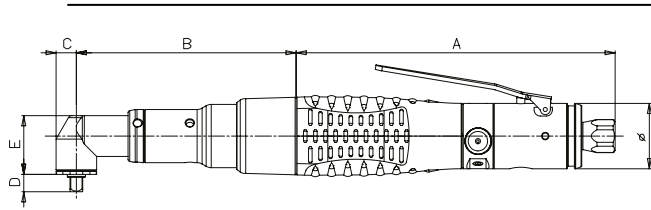
Supplied  
black colour - Ø wire 2,2 mm  
Code 595102204

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

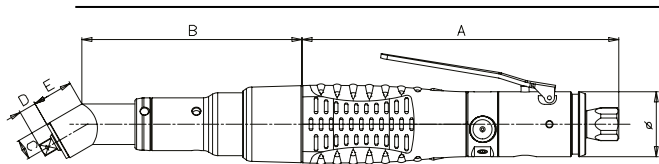
  

Model	Air inlet	Recommended hose bore
15C...	1/4" gas	Ø 5 mm

### Dimensions (mm) of angle models



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



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 straight models to be installed on arm stands and with auxiliary grip (cod. 692039006)

Models available upon request	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 suction	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

## 15C screwdrivers/nutrunners with TRACS2 torque control + SCREWS COUNTING

# 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 equipped with pneumatic pick-up signal (ported)**
- **COMPUTERIZED MONITORING UNIT TOM** (Tightening Operation Monitor): 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: which are considerably affected by pressure fluctuations.

Model	Description	Code	Dimensions (mm) width x depth x height	Electric feed
TOM	Monitoring unit	685001062	208 x 128 x 42	24V, 110/230V, 50/60 Hz

### Standard equipment

- Feeder • Feed cable • Use and maintenance manual • Eco-friendly packaging

TOM needs to be purchased along with **Fiam transducer**, one per each tool (except when TOM is connected to EasyDriver CA). Cod. **687041041**



## FEATURES

### 14 INPUTS

- 8 for programmes selection, 6 for remote functioning: switching off, program activation, tool stop, tool loosening, program reset

### 24 OUTPUTS

- For results, active program, screwdriver status and possible electro-valve activation, auxiliary output

### AUTOMATIC CHECK OF TIGHTENING TIME

- Which can be adjusted by setting the cycle time thus discriminating the different KO results

### SINGLE PROGRAM

99 tightenings



- Tightening with min/max time equal for all screws
- Screws count
- 3 different acoustic signals: tightening end, single program end, error

### SEQUENCE PROGRAM

99 tightenings x 8



- More single programmes (up to 8) in sequence
- 4 different acoustic signals: tightening end, single tightening end, sequence end, error
- It can be selected from PC
- For each tightening sequence it is possible to program the **maximum number of tightening attempts fro NOK screws**

### RS 232 SERIAL PORT

- To print the following results in sequence: Date / hour - Number active output - Result – Tightening Time – Screw number - Program number - Sequence

### PASSWORD

- Two modalities: one does not allow the operator changing menu's parameters; the other, in addition to former's possibilities, in case of error and consequent unit stop, allows the line manager to reactivate the process by means of a password or key (optional)

### TIME

- It can be activated without buffer-battery to be replaced

### MEMORY

- Parameters for statistics (they can printed through RS232):  
OK piece - NOK Screws - Pressed resets (NOK pieces) - Number of screws counted by TOM (data not resettable) – It stores data related to last 6,000,000 screws

### TOOL TEST

- It controls tool air ports and connections works properly

### REMOTE FUNTIONING

- From external PLC (or sensor) it is possible to stop the tool with the dedicated locking/unlocking unit. For instance, when we work with jigs, the tool is activated only when parts are correctly positioned

### MASKED TIME

- This feature disable any controls for a set time during which TOM does not detect possible incorrect operations by the worker (for instance "unintentional starts" with push-to-start screwdrivers)

### RELEASE TIME

- This function allows to better identify the OK tightenings, even if the lever is released in a very short time after the clutch shut-off (for example, if the operator is particularly fast to tighten and release the lever)

## Models available upon request

- **Multi-dock connector:** connecting up to 8 tools (each tool has a dedicated program) that can operate individually depending on TOM programming. Code 685001065
- **Tool locking/unlocking device:** it permits to TOM unit to enable/disable connected tool. For 15C models: code 685001069
- **Cables**  
Code 685001071: to connect TOM with locking/unlocking device when a single screwdriver is used.  
Code 685001072: to connect multi-dock connector with locking/unlocking device when several screwdrivers are used
- **Tower-light:** It allows immediate, visual display of the tightening outcome. Code 687041018
- **Transducer for TOM:** it is a single box that receives two pneumatic signals (input) through two hoses of different colors: black for starting signal and green for torque signal. Equipped with led indicator and unique electric connecting cable (output) to carry the electrical signal to the TOM unit. Reduced dimensions and weight, easier to calibrate. Code 687041041
- **Connecting hoses** (air and signals) for use of the transducer for TOM. A very compact solution, completely spiral shape, which maintains a tidy work area for the operator. The hoses are 2.5 M long (measured with stretched hose and including 35 mm useful linear hose for connections)  
Spiral multi-hose for TOM D12 code 693011027  
Spiral multi-hose for TOM D10 code 693011026
- **Cover:** It prevents intentional or unintentional contacts and damages to TOM unit. It prevents modifications / tampering by unauthorized personnel. Code 687041043
- **Telescopic reaction arms in carbon fibre and cartesian arms:** they reduce torque reaction on operator's hand. See cat. 79- Accessories for ergonomic workplace

For further information see cat. 99 - TOM.


## Air screwdrivers with pneumatic pick-up signal

Model	Code	Type of screwdriver/nutrunner	Grip	Tightening torque on soft joint		Idle speed	Starting system	Reversibility	Weight	Dimensions (mm)	Air consumption	Accessories	Noise level**	Vibrations	
				min.	max.										min.
				Nm	in lb	rpm	Type	Type	kg	lb	Øxhx	l/s	Drive	dBA	m/s <sup>2</sup>
15C2A-CS	112507035	↓	↓	0,4 ÷ 2,0	3.54 ÷ 177	2000	↓↑	↻	0,59	1,30	38x230	4	⊕ F 1/4"	73	<2,5
15C3A-CS	112507036	↓	↓	0,4 ÷ 3,5	3.54 ÷ 30.975	1400	↓↑	↻	0,60	1,32	38x230	5,5	⊕ F 1/4"	73	<2,5
15C4A-CS	112507037	↓	↓	0,4 ÷ 4,5	3.54 ÷ 39.825	950	↓↑	↻	0,60	1,32	38x230	5,5	⊕ F 1/4"	73	<2,5
15C5A-CS	112507038	↓	↓	0,4 ÷ 5,0	3.54 ÷ 44.25	650	↓↑	↻	0,60	1,32	38x230	5,5	⊕ F 1/4"	73	<2,5
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°	↵↵ 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°	↵↵ 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°	↵↵ 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°	↵↵ 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°	↵↵ 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°	↵↵ 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°	↵↵ 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°	↵↵ 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° • PA = 'Forward' pistol grip • 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 28927-2.
- 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 straight models to be installed on arm stands and with auxiliary grips (cod. 692039006)

## 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:** (Tightening Operation Control System - Torque Control) 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.

Control unit			
Model	Description	Code	Dimensions (mm) width x depth x height
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 = alphanumerical display • G = graphic display

Standard equipment (supplied with unit)	Accessories available upon request	Models available upon request
<ul style="list-style-type: none"> <li>• 2m electric power cable</li> <li>• Use and maintenance manual</li> <li>• Eco-friendly packaging</li> </ul>	<ul style="list-style-type: none"> <li>• OK/KO signal light column with built-in buzzer (code 686000182)</li> <li>• Transport handle</li> </ul>	<ul style="list-style-type: none"> <li>• Version with network board for communicating with specific software (computerised unit programming + data acquisition)</li> </ul>

### 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.
- **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.

## Air screwdrivers with built-in torque transducer

Type of screwdriver/nutrunner	Code	Grip	Tightening torque on soft joint		Idle speed	Starting system	Reversibility	Weight	Dimensions (mm)	Air consumption	Accessories	Noise level*	Vibrations	
			min.	max.										min.
Model		Type	Nm	in lb	rpm	Type	Type	kg	lb	Øxh	l/s	Drive	dBA	m/s <sup>2</sup>
15C2AL - TC	upon request		0,4 ÷ 2,0	3.54 ÷ 177	2000			0,59	1.30	38x228	4	◻ F 1/4"	73	<2,5
15C3AL - TC	upon request		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		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		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		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		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		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		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		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		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		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		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		0,8 ÷ 2,0	7.08 ÷ 177	2000			0,70	1.54	see on page 9	4	◻ M 1/4"	73	<2,5
15C3A30 - TC	upon request		0,8 ÷ 3,0	7.08 ÷ 26.55	1400			0,70	1.54	see on page 9	5,5	◻ M 1/4"	73	<2,5
15C4A30 - TC	upon request		0,8 ÷ 4,0	7.08 ÷ 35.4	950			0,70	1.54	see on page 9	5,5	◻ M 1/4"	73	<2,5
15C5A30 - TC	upon request		0,8 ÷ 5,0	7.08 ÷ 44.25	650			0,70	1.54	see on page 9	5,5	◻ M 1/4"	73	<2,5
15C2A90 - TC	upon request		0,8 ÷ 2,0	7.08 ÷ 177	2000			0,70	1.54	see on page 9	4	◻ M 1/4"	73	<2,5
15C3A90 - TC	upon request		0,8 ÷ 3,0	7.08 ÷ 26.55	1400			0,70	1.54	see on page 9	5,5	◻ M 1/4"	73	<2,5
15C4A90 - TC	upon request		0,8 ÷ 4,0	7.08 ÷ 35.4	950			0,70	1.54	see on page 9	5,5	◻ M 1/4"	73	<2,5
15C5A90 - TC	upon request		0,8 ÷ 5,0	7.08 ÷ 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 28927-2 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 straight models to be installed on arm stands and with auxiliary grips (cod. 692039006)

# 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, when low torques are required, contact our **Technical Consultancy Service**.



## 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.



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