

**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

# 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.

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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.

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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.

Straight screwdriver



"Forward" pistol screwdriver



Pistol screwdriver



## Control levels of the assembly process



### Level 1

Torque control

- TRACS2 CLUTCH
- ACCURATE TIGHTENINGS
- HIGH REPEATABILITY



### Level 2

Torque control, screws counting

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

Angle nutrunner



Solution with TOM monitoring unit



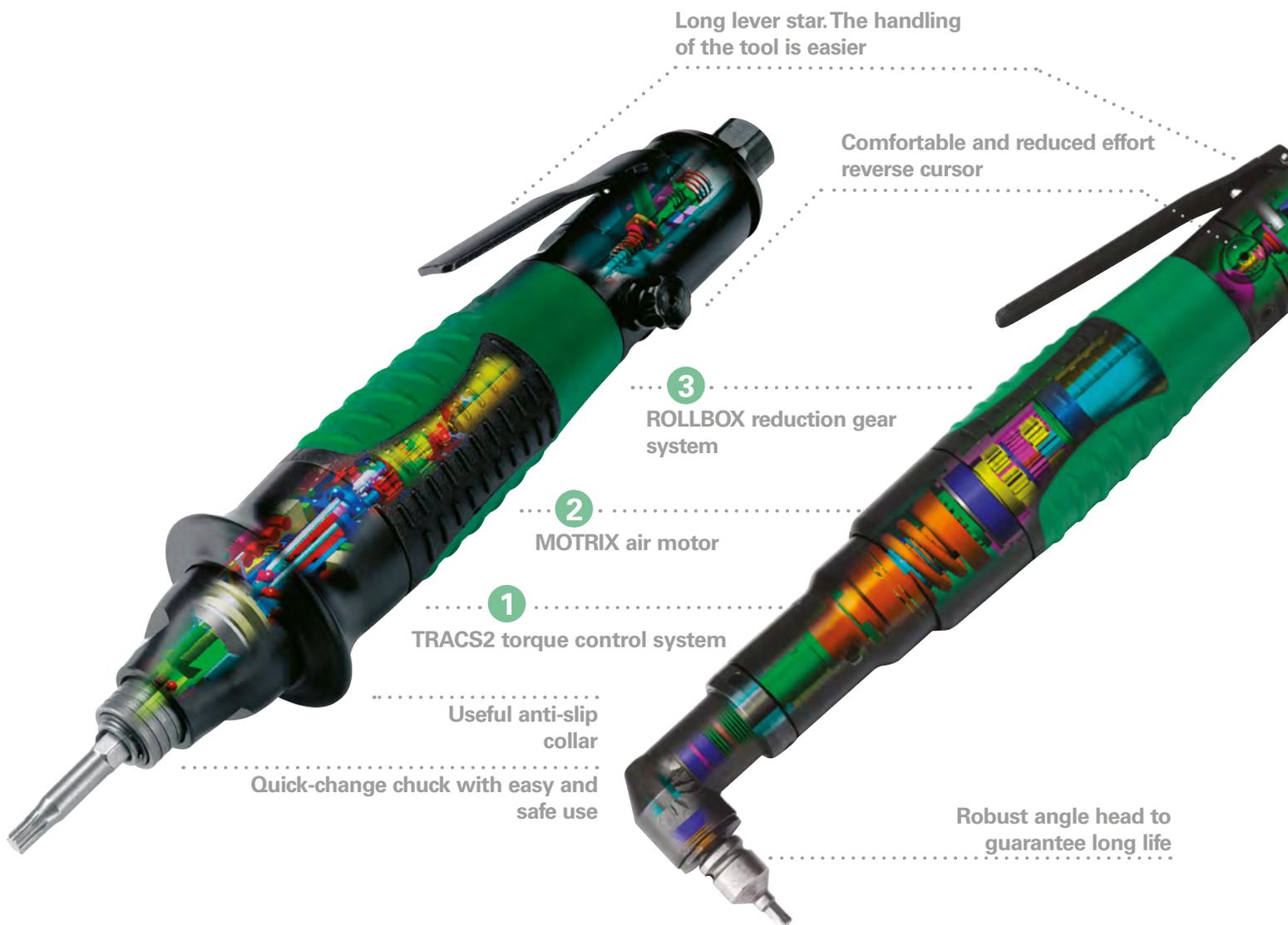
## 15C screwdrivers/nutrunners with TRACS2 torque control

# 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**.





Comfortable and reduced effort reverse cursor

3 ROLLBOX reduction gear system

2 MOTRIX air motor

Ergonomic grip with no slip sheath for safe and comfortable tool holding

Low effort button with gradual starting system

1 TRACS2 torque control system

Quick-change chuck with easy and safe use

## Reversibility next to starting button and triple air inlet

This range of tools is particularly suitable for applications where screw loosening is recurring as into electric/electronic fields, assembly of wires harness and when it is necessary to untighten several times to realign parts when not correctly tightened on the component. **Reversibility next to the start button** allows a

**practical and fast change of rotation.**

If in addition to the reversibility, the screwdriver is equipped with **triple air inlet**, it is possible to use the **same pistol grip** for different **working lay-out** with rapid sequence.



15C...R



15C...3I

## 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

**Low speed models:** indicated for assemblies with all critical joints given by the sum of delicate and easily deformable materials, where a standard speed could compromise the result of the tightening.



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  $2,5 \text{ m/s}^2$

**"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**



DIFFERENT ACCESSORIES TO IMPROVE ERGONOMIC WORKPLACES

| 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.            | max. |               | kg     | lb    |                 |                 |             |                  |            |
| Model                           |           | Type | Nm                              | in lb       | rpm        | Type            | Type |               |        | Øxhxh | l/s             | Drive           | dBA         | m/s <sup>2</sup> |            |
| 15C2A                           | 112514372 |      | 0,4 ÷ 2,0                       | 3.54÷17.7   | 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       |
| 15C5A250                        | 112509851 |      | 0,4 ÷ 5,0                       | 3.54÷44.25  | 250        |                 |      |               | 0,65   | 1,43  | 38x240          | 5,5             | ⊕ F 1/4"    | 73               | <2,5       |
| 15C5A150                        | 112509935 |      | 0,4 ÷ 5,0                       | 3.54÷44.25  | 150        |                 |      |               | 0,65   | 1,43  | 38x240          | 5,5             | ⊕ F 1/4"    | 73               | <2,5       |
| 15C2AL                          | 112514382 |      | 0,4 ÷ 2,0                       | 3.54÷17.7   | 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       |
| 15C5AL250                       | 112509921 |      | 0,4 ÷ 5,0                       | 3.54÷44.25  | 250        |                 |      |               | 0,66   | 1,45  | 38x242          | 5,5             | ⊕ F 1/4"    | 73               | <2,5       |
| 15C5AL150                       | 112509925 |      | 0,4 ÷ 5,0                       | 3.54÷44.25  | 150        |                 |      |               | 0,66   | 1,45  | 38x242          | 5,5             | ⊕ F 1/4"    | 73               | <2,5       |
| 15C2APA                         | 112514522 |      | 0,6 ÷ 2,2                       | 5.31÷19.47  | 2200       |                 |      |               | 0,70   | 1,54  | 31x178x156      | 6               | ⊕ F 1/4"    | 71               | <2,5       |
| 15C4APA                         | 112514523 |      | 0,4 ÷ 3,5                       | 3.54÷30.975 | 1400       |                 |      |               | 0,72   | 1,58  | 31x178x156      | 6               | ⊕ F 1/4"    | 71               | <2,5       |
| 15C4APA                         | 112514524 |      | 0,4 ÷ 4,5                       | 3.54÷39.825 | 950        |                 |      |               | 0,72   | 1,58  | 31x178x156      | 6               | ⊕ F 1/4"    | 71               | <2,5       |
| 15C5APA                         | 112514525 |      | 0,4 ÷ 5,0                       | 3.54÷44.25  | 650        |                 |      |               | 0,72   | 1,58  | 31x178x156      | 6               | ⊕ F 1/4"    | 71               | <2,5       |
| 15C2AP                          | 112514532 |      | 0,6 ÷ 2,2                       | 5.31÷19.47  | 2200       |                 |      |               | 0,70   | 1,54  | 37x209x157      | 6               | ⊕ F 1/4"    | 71               | <2,5       |
| 15C3AP                          | 112514533 |      | 0,4 ÷ 3,5                       | 3.54÷30.975 | 1400       |                 |      |               | 0,72   | 1,58  | 37x209x157      | 6               | ⊕ F 1/4"    | 71               | <2,5       |
| 15C5AP                          | 112514534 |      | 0,4 ÷ 4,5                       | 3.54÷39.825 | 950        |                 |      |               | 0,72   | 1,58  | 37x209x157      | 6               | ⊕ F 1/4"    | 71               | <2,5       |
| 15C5AP                          | 112514535 |      | 0,4 ÷ 5,0                       | 3.54÷44.25  | 650        |                 |      |               | 0,72   | 1,58  | 37x209x157      | 6               | ⊕ F 1/4"    | 71               | <2,5       |
| 15C5AP250                       | 112307250 |      | 0,4 ÷ 5,0                       | 3.54÷44.25  | 250        |                 |      |               | 0,78   | 1,72  | 37x221x157      | 6               | ⊕ F 1/4"    | 73               | <2,5       |
| 15C5AP150                       | 112507063 |      | 0,4 ÷ 5,0                       | 3.54÷44.25  | 150        |                 |      |               | 0,78   | 1,72  | 37x221x157      | 6               | ⊕ F 1/4"    | 73               | <2,5       |
| 15C2A90                         | 112593942 |      | 0,8 ÷ 2                         | 7.08÷17.7   | 2000       |                 |      |               | 0,70   | 1,54  | see page 10     | 4,0             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C3A90                         | 112593943 |      | 0,8 ÷ 3                         | 7.08÷26.55  | 1400       |                 |      |               | 0,70   | 1,54  | see page 10     | 5,5             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C4A90                         | 112593944 |      | 0,8 ÷ 4                         | 7.08÷35.4   | 950        |                 |      |               | 0,70   | 1,54  | see page 10     | 5,5             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C5A90                         | 112593945 |      | 0,8 ÷ 5                         | 7.08÷44.25  | 650        |                 |      |               | 0,70   | 1,54  | see page 10     | 5,5             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C2A30                         | 112533942 |      | 0,8 ÷ 2                         | 7.08÷17.7   | 2000       |                 |      |               | 0,70   | 1,54  | see page 10     | 4,0             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C3A30                         | 112533943 |      | 0,8 ÷ 3                         | 7.08÷26.55  | 1400       |                 |      |               | 0,70   | 1,54  | see page 10     | 5,5             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C4A30                         | 112533944 |      | 0,8 ÷ 4                         | 7.08÷35.4   | 950        |                 |      |               | 0,70   | 1,54  | see page 10     | 5,5             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C5A30                         | 112533945 |      | 0,8 ÷ 5                         | 7.08÷44.25  | 650        |                 |      |               | 0,70   | 1,54  | see page 10     | 5,5             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C5A90-250                     | 112507027 |      | 0,8 ÷ 5                         | 7.08÷44.25  | 250        |                 |      |               | 0,76   | 1,67  | see page 10     | 5,5             | ⊕ M 1/4"    | 73               | <2,5       |
| 15C5A90-150                     | 112509924 |      | 0,8 ÷ 5                         | 7.08÷44.25  | 150        |                 |      |               | 0,90   | 1,98  | see page 10     | 5,5             | ⊕ M 1/4"    | 73               | <2,5       |

#### Models with reversibility next to starting button

|                |           |  |           |             |      |  |  |  |      |      |            |   |          |    |      |
|----------------|-----------|--|-----------|-------------|------|--|--|--|------|------|------------|---|----------|----|------|
| 15C2APA-2200-R | 112514551 |  | 0,6 ÷ 2,2 | 5.31÷19.47  | 2200 |  |  |  | 0,75 | 1,65 | 37x186x155 | 6 | ⊕ F 1/4" | 71 | <2,5 |
| 15C3APA-1400-R | 112514552 |  | 0,4 ÷ 3,5 | 3.54÷30.975 | 1400 |  |  |  | 0,77 | 1,69 | 37x186x155 | 6 | ⊕ F 1/4" | 71 | <2,5 |
| 15C4APA-950-R  | 112514553 |  | 0,4 ÷ 4,5 | 3.54÷39.825 | 950  |  |  |  | 0,77 | 1,69 | 37x186x155 | 6 | ⊕ F 1/4" | 71 | <2,5 |
| 15C5APA-650-R  | 112514554 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 650  |  |  |  | 0,77 | 1,69 | 37x186x155 | 6 | ⊕ F 1/4" | 71 | <2,5 |
| 15C5APA-250-R  | 112507064 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 250  |  |  |  | 0,82 | 1,80 | 37x198x155 | 6 | ⊕ F 1/4" | 71 | <2,5 |
| 15C5APA-150-R  | 112507065 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 150  |  |  |  | 0,82 | 1,80 | 37x198x155 | 6 | ⊕ F 1/4" | 71 | <2,5 |

### Models with reversibility next to starting button and triple air inlet

|           |           |  |           |             |      |  |  |      |      |            |   |  |        |    |      |
|-----------|-----------|--|-----------|-------------|------|--|--|------|------|------------|---|--|--------|----|------|
| 15C2APA3I | 112514529 |  | 0,6 ÷ 2,2 | 5.31÷19.47  | 2200 |  |  | 0,76 | 1.67 | 37x190x155 | 6 |  | F 1/4" | 71 | <2,5 |
| 15C3APA3I | 112514528 |  | 0,4 ÷ 3,5 | 3.54÷30.975 | 1400 |  |  | 0,78 | 1.72 | 37x190x155 | 6 |  | F 1/4" | 71 | <2,5 |
| 15C4APA3I | 112514527 |  | 0,4 ÷ 4,5 | 3.54÷39.825 | 950  |  |  | 0,78 | 1.72 | 37x190x155 | 6 |  | F 1/4" | 71 | <2,5 |
| 15C5APA3I | 112514526 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 650  |  |  | 0,78 | 1.72 | 37x190x155 | 6 |  | F 1/4" | 71 | <2,5 |

### Models with threaded drive for screw suction system

|               |           |  |           |             |      |  |  |      |      |        |     |  |        |    |      |
|---------------|-----------|--|-----------|-------------|------|--|--|------|------|--------|-----|--|--------|----|------|
| 15C2A-FT      | 112509919 |  | 0,4 ÷ 2,0 | 3.54÷17.7   | 2000 |  |  | 0,58 | 1.28 | 38x230 | 4,0 |  | F 1/4" | 73 | <2,5 |
| 15C3A- FT     | 112509920 |  | 0,4 ÷ 3,5 | 3.54÷30.975 | 1400 |  |  | 0,59 | 1.30 | 38x230 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C4A- FT     | 112507013 |  | 0,4 ÷ 4,5 | 3.54÷39.825 | 950  |  |  | 0,59 | 1.30 | 38x230 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C5A- FT     | 112509913 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 650  |  |  | 0,59 | 1.30 | 38x230 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C5A250- FT  | 112509956 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 250  |  |  | 0,59 | 1.30 | 38x240 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C5A150- FT  | 112507072 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 150  |  |  | 0,59 | 1.30 | 38x240 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C2AL-FT     | 112507073 |  | 0,4 ÷ 2,0 | 3.54÷17.7   | 2000 |  |  | 0,60 | 1.32 | 38x228 | 4,0 |  | F 1/4" | 73 | <2,5 |
| 15C3AL- FT    | 112507074 |  | 0,4 ÷ 3,5 | 3.54÷30.975 | 1400 |  |  | 0,60 | 1.32 | 38x228 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C4AL- FT    | 112507047 |  | 0,4 ÷ 4,5 | 3.54÷39.825 | 950  |  |  | 0,60 | 1.32 | 38x228 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C5AL- FT    | 112509949 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 650  |  |  | 0,60 | 1.32 | 38x228 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C5AL250- FT | 112507075 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 250  |  |  | 0,70 | 1.54 | 38x242 | 5,5 |  | F 1/4" | 73 | <2,5 |
| 15C5AL150- FT | 112507076 |  | 0,4 ÷ 5,0 | 3.54÷44.25  | 150  |  |  | 0,70 | 1.54 | 38x242 | 5,5 |  | F 1/4" | 68 | <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 start • PA = 'Forward' pistol grip • 30 = Head at 30° • 90 = Head at 90° • 2200 = Idle speed • R = Reversibility • 3I = 3 Inlets (3 air inlets) • FT = (Front Thread) Equipped with threaded drive for screw suction system

#### Legend

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

- Lever start**
- Push to start**
- Push-button 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.

**N.B.:** Reversibility cursor can be positioned on the right or left of the start button.

Torque values refer to analysis of laboratory performing tests that comply with the standard ISO 5393 with screwdriver set at to the maximum speed and should be considered as indicative.

The values in real applications can be influenced by many factors such as, for example: joint (type of joint, degree of elasticity), screw (type and length), accessory used (type or length of the blade), tightening speed, assembly conditions (free standing screwdriver, screwdriver mounted on a torque arm), operator behavior during the tightening phase. For any further details, please address to [Fiam Technical Advice service](#).

## Other technical feature

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) | Air inlet | Tightening torque on soft joint (Nm) | Recommended hose bore |
|--------|--------------------------------------|-----------|--------------------------------------|-----------------------|
| 15C... | 0,8 ÷ at MAX torque                  | 1/4" gas  | From min torque ÷ 1,2                | 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 and other accessories ([see catalogue nr. 78](#))
- Couplings, hoses, filters, governors and other compressed air system accessories ([see catalogue nr. 77](#))
- 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 sunction (see page 18)  | 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.

## Tightening Operation Monitor

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

### Standard equipment

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

TOM Tightening Operation Monitor is also available in the configuration BOX TOM, that includes: **TOM unit and all its accessories already wired in a single box.**

This **“Plug and Play” solution is easy to introduce into assembly lines and extremely practical** since you just need to connect the air line and the power supply to start production immediately.

| Model   | Description     | Code      | Dimensions (mm)  | Electric feed           |
|---------|-----------------|-----------|--|-------------------------|
| BOX TOM | Monitoring unit | 685001086 | h 265 mm (without tower-light) x depth 165 x width 300 | 24V, 110/230V, 50/60 Hz |

### Standard equipment

- BOX TOM includes:
- TOM monitoring unit • Tool locking/unlocking device • Cable to connect TOM with locking/unlocking device • Transducer • Tower light • Feeder • Feed cable • Use and maintenance manual • Eco-friendly packaging



### MODEL “STOP BY TIME” AVAILABLE UPON REQUEST - Code 685001087

Used when it is necessary to **tighten** threaded elements controlling shut-off by **depth rather than torque** through the control of tightening time.

It allows the tightening of the threaded elements with a tolerance of 360° compared to target depth.

It is to order with the tool locking unit to activate the arrest “to time” of the screwdriver together to cables and Cables multi-dock.

When the time set by the operator is reached, the tools stops for a programmable time. There will be an OK signal (and not an error that requires a RESET as the standard version does). You can set up to 8 different times, one for each program available.

| Model                  | Code      |
|------------------------|-----------|
| TOM “STOP BY TIME”     | 685001087 |
| TOM BOX “STOP BY TIME” | 685001089 |

## Transducer for TOM

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

Completely designed and manufactured by Fiam, 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.

| Model              | Code      |
|--------------------|-----------|
| Transducer for TOM | 687041041 |



### What is it necessary to choose?



# Features

|   |   |
|---|---|
| <b>20 INPUTS</b>                              | <ul style="list-style-type: none"> <li>• 8 for programmes selection, 6 for remote functioning: switching off, program activation, tool stop, tool loosening, program reset</li> </ul> <p>Availables with contacts 24V/GND (both pull-up and pull-down) for a great compatibility with the bench buttons (i.e: reset, block, unblocking etc.) and to be interface with the PLC of the client</p> |
| <b>24 OUTPUTS</b>                             | <ul style="list-style-type: none"> <li>• For results, active program, screwdriver status and possible electro-valve activation, auxiliary output, signal waste piece, in cycle signal (to check the beginning and the end of tightening cycle, useful i.e. set/unset the pieces jigs)</li> </ul>  |
| <b>AUTOMATIC CHECK OF TIGHTENING TIME</b>     | <ul style="list-style-type: none"> <li>• Which can be adjusted by setting the cycle time thus discriminating the different KO results</li> </ul>  |
| <b>SINGLE PROGRAM</b><br>99 tightenings       | <ul style="list-style-type: none"> <li>• Tightening with min/max time equal for all screws</li> <li>• Screws count</li> <li>• 3 different acoustic signals: tightening end, single program end, error</li> </ul>  |
| <b>SEQUENCE PROGRAM</b><br>99 tightenings x 8 | <ul style="list-style-type: none"> <li>• More single programmes (up to 8) in sequence</li> <li>• 4 different acoustic signals: tightening end, single tightening end, sequence (OK/NOK)</li> <li>• It can be selected from PC</li> <li>• For each tightening sequence it is possible to program the maximum number of tightening attempts fro NOK screws</li> </ul>                             |
| <b>RS 232 SERIAL PORT</b>                     | <ul style="list-style-type: none"> <li>• To print the following results in sequence: Date / hour - Number active output - Result – Tightening Time – Screw number - Program number - Sequence</li> </ul>  |
| <b>PASSWORD</b>                               | <ul style="list-style-type: none"> <li>• 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)</li> </ul>   |
| <b>TIME</b>                                   | <ul style="list-style-type: none"> <li>• It can be activated without buffer-battery to be replaced</li> </ul>   |
| <b>MEMORY</b>                                 | <ul style="list-style-type: none"> <li>• Parameters for statistics (they can printed through RS232):<br/>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</li> </ul>   |
| <b>LEVER RELEASED CONTROL</b>                 | <ul style="list-style-type: none"> <li>• In production processes where the operators tighten so fast that release the lever before the clutch shuts-off</li> </ul>  |
| <b>REMOTE FUNTIONING</b>                      | <ul style="list-style-type: none"> <li>• 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</li> </ul>   |
| <b>MASKED TIME</b>                            | <ul style="list-style-type: none"> <li>• 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)</li> </ul>   |
| <b>RELEASE TIME</b>                           | <ul style="list-style-type: none"> <li>• 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 start)</li> </ul>   |
| <b>RUNCYCLE</b>                               | <ul style="list-style-type: none"> <li>• For pallet lines where, for instance, jigs locking device needs to be activated and then release the jig when the piece is assembled. Replaces some activities that are normally controlled by a PLC</li> </ul>  |

## 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/26C 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
- **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
- For further information see cat. 99 - [TOM Monitoring Unit](#).

## Advantages of the TOM unit vs a PLC

|           | TOM   | PLC  |
|-----------|---|--|
| LAY OUT   | <b>Compact unit</b> compared to the PLC   | To provide the same features, the PLC must be integrated with other devices (additional modules which are bigger)  |
|           | <b>Robust:</b> the cover is made of sheet metal 1 mm thick  | The PLCs are made of plastic and must be further protected by an additional electric panel   |
|           | <b>It doesn't require switchboard and wiring</b> for installation   | The PLC provides an electric panel instead   |
|           | Possibility to <b>position it directly on the production line</b> to be used by the operator to read  | The PLC needs a operator panel and/or external buttons   |
| CHEAPNESS | <b>Integrated and easy user interface</b>   | It is necessary an operator panel to connect and adequately program  |
|           | <b>TOM is a complete system</b> equipped with 16 IN and 24 OUT, RS232 for data and watch  | To have all these functions, it is necessary to add expansions   |
|           | <b>Complete firmware compatible with all screwdrivers</b> , with all setting times and calibrations and many other functions  | It is required a complete programming according to the different screwdrivers to connect   |
|           | <b>Firmware already tested by Fiam</b> and ready to use   | A program developed by the customer, in addition to costs for software development and time (often some months), requires a time for verification and resolution of the programming errors |
| USE       | <b>Rapid start up:</b> a few seconds to start   | Long cycle of start; the PLC always require more time to start   |
|           | <b>Rapid visualisation</b> of the remaining screws thanks to additional display   | For the PLC, it is required an additional monitor positioned close to the user   |
|           | <b>Fast calculation:</b> instantaneous response to events (both screwdriver and inputs / outputs). <b>Very rapid reading:</b> even in the case of 1 tightening with very high cadences, counts are not lost | Slower times of answer in case of tightenings with high work rate  |
|           | <b>Easily interfaced</b> to signal and transmit the data with all PLC   | The PLC to communicate with other devices must have additional interfaces  |



TOM connected with the plant's system



Process under control and print of tightening results

## Air screwdrivers with pneumatic pick-up signal

| Type of screwdriver / nutrunner | Code      | Grip             | Campo di coppia su giunzione elastica |             | Idle speed | Starting system |      | Reversibility | Weight |                | Dimensions (mm) | Air consumption | Accessories | Noise level* | Vibrations |
|---------------------------------|-----------|------------------|---------------------------------------|-------------|------------|-----------------|------|---------------|--------|----------------|-----------------|-----------------|-------------|--------------|------------|
|                                 |           |                  | min. Nm                               | max. in lb  |            | Type            | Type |               | kg     | lb             |                 |                 |             |              |            |
| 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 | ↵ <sup>30°</sup> | 0,8÷2,0                               | 708÷177     | 2000       | ↵               | ↻    | 0,70          | 1,54   | see on page 10 | 4               | □ M 1/4"        | 73          | <2,5         |            |
| 15C3A30-2CS                     | 112509904 | ↵ <sup>30°</sup> | 0,8÷3,0                               | 708÷26.55   | 1400       | ↵               | ↻    | 0,70          | 1,54   | see on page 10 | 5,5             | □ M 1/4"        | 73          | <2,5         |            |
| 15C4A30-2CS                     | 112509905 | ↵ <sup>30°</sup> | 0,8÷4,0                               | 708÷35.4    | 950        | ↵               | ↻    | 0,70          | 1,54   | see on page 10 | 5,5             | □ M 1/4"        | 73          | <2,5         |            |
| 15C5A30-2CS                     | 112509906 | ↵ <sup>30°</sup> | 0,8÷5,0                               | 708÷44.25   | 650        | ↵               | ↻    | 0,70          | 1,54   | see on page 10 | 5,5             | □ M 1/4"        | 73          | <2,5         |            |
| 15C2A90-2CS                     | 112509907 | ↵ <sup>90°</sup> | 0,8÷2,0                               | 708÷177     | 2000       | ↵               | ↻    | 0,70          | 1,54   | see on page 10 | 4               | □ M 1/4"        | 73          | <2,5         |            |
| 15C3A90-2CS                     | 112509908 | ↵ <sup>90°</sup> | 0,8÷3,0                               | 708÷26.55   | 1400       | ↵               | ↻    | 0,70          | 1,54   | see on page 10 | 5,5             | □ M 1/4"        | 73          | <2,5         |            |
| 15C4A90-2CS                     | 112509909 | ↵ <sup>90°</sup> | 0,8÷4,0                               | 708÷35.4    | 950        | ↵               | ↻    | 0,70          | 1,54   | see on page 10 | 5,5             | □ M 1/4"        | 73          | <2,5         |            |
| 15C5A90-2CS                     | 112509910 | ↵ <sup>90°</sup> | 0,8÷5,0                               | 708÷44.25   | 650        | ↵               | ↻    | 0,70          | 1,54   | see on page 10 | 5,5             | □ M 1/4"        | 73          | <2,5         |            |

### Models with reversibility next to starting button

|                    |           |   |         |             |      |   |   |      |      |            |   |          |    |      |
|--------------------|-----------|---|---------|-------------|------|---|---|------|------|------------|---|----------|----|------|
| 15C2APA-2200-R-2CS | 112514555 | ↵ | 0,6÷2,2 | 5.31÷19.47  | 2200 | ↵ | ↻ | 0,75 | 1,65 | 37x186x155 | 6 | ○ F 1/4" | 71 | <2,5 |
| 15C3APA-1400-R-2CS | 112514556 | ↵ | 0,4÷3,5 | 3.54÷30.975 | 1400 | ↵ | ↻ | 0,77 | 1,69 | 37x186x155 | 6 | ○ F 1/4" | 71 | <2,5 |
| 15C4APA-950-R-2CS  | 112514557 | ↵ | 0,4÷4,5 | 3.54÷39.825 | 950  | ↵ | ↻ | 0,77 | 1,69 | 37x186x155 | 6 | ○ F 1/4" | 71 | <2,5 |
| 15C5APA-650-R-2CS  | 112514558 | ↵ | 0,4÷5,0 | 3.54÷44.25  | 650  | ↵ | ↻ | 0,77 | 1,69 | 37x186x155 | 6 | ○ F 1/4" | 71 | <2,5 |

### Models with reversibility next to starting button and triple air inlet

|               |           |   |         |             |      |   |   |      |      |            |   |          |    |      |
|---------------|-----------|---|---------|-------------|------|---|---|------|------|------------|---|----------|----|------|
| 15C2APA3I-2CS | 112507008 | ↵ | 0,6÷2,2 | 5.31÷19.47  | 2200 | ↵ | ↻ | 0,76 | 1,67 | 37x190x155 | 6 | ○ F 1/4" | 71 | <2,5 |
| 15C3APA3I-2CS | 112507009 | ↵ | 0,4÷3,5 | 3.54÷30.975 | 1400 | ↵ | ↻ | 0,78 | 1,72 | 37x190x155 | 6 | ○ F 1/4" | 71 | <2,5 |
| 15C4APA3I-2CS | 112507010 | ↵ | 0,4÷4,5 | 3.54÷39.825 | 950  | ↵ | ↻ | 0,78 | 1,72 | 37x190x155 | 6 | ○ F 1/4" | 71 | <2,5 |
| 15C5APA3I-2CS | 112507011 | ↵ | 0,4÷5,0 | 3.54÷44.25  | 650  | ↵ | ↻ | 0,78 | 1,72 | 37x190x155 | 6 | ○ F 1/4" | 71 | <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 start • P = Pistol grip • PA = 'Forward' pistol grip • 30 = Head at 30° • 90 = Head at 90° • 2200 = Idle speed • R = Reversibility • 2CS = Double-signal pressure

### Legend

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

 **Lever start**

 **Push-button 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.

Torque values refer to analysis of laboratory performing tests that comply with the standard ISO 5393 with screwdriver set at to the maximum speed and should be considered as indicative.

The values in real applications can be influenced by many factors such as, for example: joint (type of joint, degree of elasticity), screw (type and length), accessory used (type or length of the blade), tightening speed, assembly conditions (free standing screwdriver, screwdriver mounted on a torque arm), operator behavior during the tightening phase. For any further details, please address to [Fiam Technical Advice 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 and other accessories ([see catalogue nr. 78](#))
- Couplings, hoses, filters, governors and other compressed air system accessories ([see catalogue nr. 77](#))
- Collar bracket for straight models to be installed on arm stands and with auxiliary grips (cod. 692039006)

**N.B.:** Reversibility cursor can be positioned on the right or left of the start button

## Accessories available upon request



### BT-MG MAGNESIUM TELESCOPIC ARMS

Telescopic arms in magnesium alloy, designed and produced by Fiam, extremely resistant to mechanical stress thus guaranteeing reliability and long life span, thanks to accurate manufacturing process and applied innovative materials.

Designed with different telescoping extension elements, they are conform for working areas according to various productive needs.

Double terminal coupling guarantees great handiness and maximum freedom of action also for inclined tightening operations. They can be easily installed on existing workplaces on ceiling or wall using a simple plate with reduced dimensions.

| Model         | Code      | Max torque<br>Nm in lb |        | Max work<br>range (mm) | Min work<br>range (mm) | Ø max<br>tool (mm) |
|---------------|-----------|------------------------|--------|------------------------|------------------------|--------------------|
| BT-MG 10 800  | 692071420 | 10                     | 88,50  | 660                    | 480                    | 26.5-50            |
| BT-MG 10 1000 | 692071421 | 10                     | 88,50  | 800                    | 550                    | 26.5-50            |
| BT-MG 15 800  | 692071409 | 15                     | 132,70 | 860                    | 505                    | 26.5-46            |
| BT-MG 15 1000 | 692071401 | 15                     | 132,70 | 1070                   | 575                    | 26.5-46            |
| BT-MG 15 1500 | 692071404 | 15                     | 132,70 | 1580                   | 745                    | 26.5-46            |



### BT-MG MAGNESIUM TELESCOPIC ARMS WITH POSITIONING DEVICE

The illustrated BT-MG arms as described above, can be equipped with a device for the detection of the correct position of the screwdriver on the tightening point.

The models, come in two versions:

- BT-MG TPM-1 arms...: models with single angle movement detection
- BT-MG TPM-2 arms...: models with angle and linear movement detection.

The arms must be integrated with the TPM monitoring unit code **692078019** and with the TOM monitoring unit code **685001062**.

The system locates the positions of the screwdriver on the different tightening points and it memorizes the sequence (up to 35 positions/program for 8 programs).

For more information, please see the [on-line catalogue](#).

+

TPM



Code 692078019

+

TOM



+

Cable TPM/CA



Code 692079181

### MODELS WITH SINGLE ANGLE MOVEMENT DETECTION

| Model                | Code      | Max torque<br>Nm in lb |        | Max work<br>range (mm) | Min work<br>range (mm) |
|----------------------|-----------|------------------------|--------|------------------------|------------------------|
| BT-MG 15 800 - TPM1  | 692071425 | 15                     | 132,70 | 985                    | 630                    |
| BT-MG 15 1000 - TPM1 | 692071426 | 15                     | 132,70 | 1195                   | 700                    |
| BT-MG 15 1500 - TPM1 | 692071427 | 15                     | 132,70 | 1705                   | 870                    |

### MODELS WITH ANGLE AND LINEAR MOVEMENT DETECTION

| Model                | Code      | Max torque<br>Nm in lb |        | Max work<br>range (mm) | Min work<br>range (mm) |
|----------------------|-----------|------------------------|--------|------------------------|------------------------|
| BT-MG 15 800 - TPM2  | 692071422 | 15                     | 132,70 | 985                    | 630                    |
| BT-MG 15 1000 - TPM2 | 692071412 | 15                     | 132,70 | 1195                   | 700                    |
| BT-MG 15 1500 - TPM2 | 692071415 | 15                     | 132,70 | 1705                   | 870                    |

## Accessories available upon request



BC Cartesian Arm



BCA Cartesian Arm



Cartesian Arm with a position monitoring device

### BC/BCA/TOP CARTESIAN ARMS

The Fiam Cartesian arms represent fundamental solutions for ergonomics workplace. They are completely designed and manufactured by Fiam and can be used with any type of tool with a diameter up to 50 mm and weight up to 11 kg.

Available in various versions:

- Cartesian Arms
- Articulated Cartesian Arms
- Cartesian Arms and Articulated Cartesian Arms to be fixed to the surface or upper structure (TOP)
- Assisted Cartesian Arms.

All models are also available with positioning device for processing angular and linear movement detection on the work point (See previous page).

| Description           | Code      | Max torque |       | Max load | Max tool diameter |
|-----------------------|-----------|------------|-------|----------|-------------------|
|                       |           | Nm         | in lb | kg       | mm                |
| BC5 Cartesian Arm     | 692031030 | 5          | 44,25 | 2        | 32÷50             |
| BC5-TOP Cartesian Arm | 692031065 | 5          | 44,25 | 2        | 32÷50             |

| Description                        | Code      | Max torque |       | Max load | Max tool diameter |
|------------------------------------|-----------|------------|-------|----------|-------------------|
|                                    |           | Nm         | in lb | kg       | mm                |
| BCA5 Articulated Cartesian Arm     | 692031034 | 5          | 44,25 | 2        | 32÷50             |
| BCA5-TOP Articulated Cartesian Arm | 692031067 | 5          | 44,25 | 2        | 32÷50             |

### Models available upon request

**BC25PK:** cartesian arm with pneumatic push device (PUSH KIT). For manual lever start tools, helps the operator both in the tightening phase, pushing downwards, and in the completed tightening ascent phase, returning automatically in rest position.

## Accessories available upon request



Cartesian Arm with a position monitoring device

### CARTESIAN ARMS WITH A POSITION MONITORING DEVICE

All Fiam Cartesian arms can be fitted with a position monitoring device and, combined with the TPM monitoring unit, help make tightening systems very suitable for "Poka-Yoke" processes, while increasing the efficiency and speed of the production cycle.

#### The guided positioning system operates as follows:

- It locates the screwdriver position at the various tightening points and stores them (up to 35 positions/program and up to 8 programs)
- The screwdriver is enabled when it is at the first stored position (the TPM display shows POS-OK and the POS-OK LED on the telescopic arm lights)
- Each time a screw is tightened, the REMAIN display shows how many screws are left, indicating that it is ready to pass on to the next screw
- The END signal comes on when the stored cycle is complete, and gives the OK to proceed with a new work cycle
- The memorization process takes place by "self-learning": it is sufficient to carry out a work cycle and at each tightening the system stores the position realized and the number of screws
- During the memorization process, a precision tolerance can be programmed within the range: for example, for a length of 1 mm  $\pm$  10% approximately; for the angle 0.1 degrees (maximum tolerances).

There are two models which can be paired with all Fiam air and electronic tightening solutions:

- Arms with TPM-1: models with **single angle** movement detection;
- Arms with TPM-2: models with **angle and linear** movement detection.

For more information please see catalog 79 "Accessories for ergonomic workplace" or contact the Fiam Technical Advice Service.



### SCREW SUCTION SYSTEM

This device makes the tool's hold on the screws and their positioning easier and more secure and can be fitted on 15C straight screwdrivers.

This system holds the screw in contact with the tool bit using the vacuum created by the vacuum pump connected to it.

This ensures that the screw is picked up and held firmly by its head while it is moved and positioned on the thread of the workpiece being assembled.

The system consists of a special head (2) to be attached to the tool and to be connected to the SSU vacuum pump.

The head has a special nozzle (1), which may be either standard or customised depending on the screw or workpiece being assembled and their sizes: in this case, a sample of the component to be assembled must be sent to Fiam.

We will also assess the bit (3) to determine the best solution for the screw type and the part to be assembled.



| Position | Type  | Code                   |
|----------|---|------------------------|
| 1        | <b>Nozzle</b>   | Standard or customized |
| 2        | <b>Screw suction head</b> (equipped with a suction hose to be connected to the SSU vacuum pump) | 682119050              |
| 3        | <b>Bit</b>  | Standard or customized |
| 4        | <b>Pneumatic tool type</b> (15C FT screwdriver – see the table)                                 | Codes at page 9        |
|          | <b>SSU - Vacuum pump</b>  | 676000120              |



#### STANDARD NOZZLE

- For tightening applications on surfaces or without particular space restrictions
- Brass nozzle, dimensions L=20mm - and  $\varnothing$ =15m
- For bits L=75 mm
- Nozzle customisation is limited to its tip size, based on the screw head size.

#### CUSTOMISED NOZZLE

- For tightening applications with space restrictions and/or other specific conditions
- Nozzle made of custom material for screws with special dimensions
- For special bits
- Customisation extends from all nozzle dimensions to the bit to be used.

## Accessories available upon request



### SSU VACUUM PUMP

Designed and manufactured by Fiam. Necessary for the suction of the screws, it works at 220 Volt-50 Hz with a use of power of only 45 Watts. Supplied with power cable.

| Model                                      | L x Width x H mm | Code      |
|--|------------------|-----------|
| SSU - Vacuum pump for screw suction system | 210 x 150 x 140  | 676000120 |

**When not combined with NJ/NJR presenters, the screw suction system can handle screws with the following geometries:**  
 MIN. HEAD Ø: 1.4 mm  
 MAX. HEAD Ø: 13 mm  
 For screws having a length higher than 18 mm, contact the [Fiam Technical Advice Service](#).

To choose the correct screw suction system, it is advisable to contact the [Fiam Technical Advice Service](#) and send Fiam samples of the screws and workpiece on which they will be tightened.



### PICK AND PLACE OPERATIONS TO INCREASE PRODUCTIVITY

The pick-and-place systems for manual use consist of NJ screw presenters to ensure fast, smooth work cycles, helping to reduce production costs.

**They can be used:**

- For magnetisable screws with PHILLIPS or POZIDRIV recesses
- For straight air and electric screwdrivers with lever start

**The benefits:**

- **No manual steps** (operators do not have to pick up screws manually and place them on the screwdriver bit, reducing cycle times by over 24%)
- **Very convenient to use:** just pick the screw up from the selection channel with the screwdriver, leaving the other hand free to hold the workpiece in position for assembly
- **Feed speed:** they feed one screw per second, and the builtin electronics makes it easy to adjust the speed
- Improved **finished product quality:** no screws lost inside components
- **They come with** an accessory to magnetise the screwdriverbit for convenient screw pick-up.



**NJR models are available as well.** They are very versatile because they can process **screws of any material, even non-magnetisable and with any imprint types**, including Torx or hexagonal ones. The convenient pick-up point can pick up effectively, eliminating the bit/screw head coupling problems that are common with these screw types.

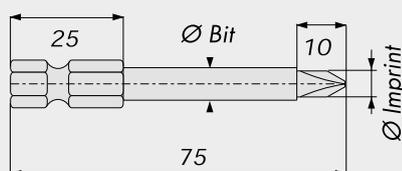
To find out all features and the correct choice of automatic screws presenter, consult "[Automatic screw presenters](#)" catalogue.

## Accessories available upon request

### Technical features

| NJ MODELS |           |                            | PHILLIPS BIT    |          |              |                        | POZIDRIV BIT    |          |              |           |
|-----------|-----------|----------------------------|-----------------|----------|--------------|------------------------|-----------------|----------|--------------|-----------|
| Model     | Code      | For screws with shank Ø mm | Phillips screws | Bit Ø mm | Imprint Ø mm | Bit code               | Pozidriv screws | Bit Ø mm | Imprint Ø mm | Bit code  |
| NJ23-R20  | 199923020 | 2                          | PH1             | 3        | 3            | 605052031              | PZ1             | 3        | 3            | 605062031 |
| NJ23-R23  | 199923023 | 2,3                        | PH1             | 3<br>4,5 | 3<br>2,6     | 605052031<br>605050041 | PZ1             | 3        | 3            | 605062031 |
| NJ23-R26  | 199923026 | 2,6                        | PH1             | 4,5      | 2,6          | 605050041              | PZ1             | 3        | 3            | 605062031 |
| NJ23-R30  | 199923030 | 3                          | PH1             | 4,5      | 2,6          | 605050041              | PZ1             | 3        | 3            | 605062031 |
| NJ45-R35  | 199923035 | 3,5                        | PH2             | 6        | 4            | 605050036              | PZ2             | 6        | 4            | 605060006 |
| NJ45-R40  | 199923040 | 4                          | PH2             | 6        | 4            | 605050036              | PZ2             | 6        | 4            | 605060006 |
| NJ45-R50  | 199923050 | 5                          | PH2             | 6        | 5            | 605050043              | PZ2             | 6        | 5            | 605060009 |

Bit dimensions in mm



| NJR MODELS |           |                            | BITS   | SCREW SUCTION SYSTEM   |
|------------|-----------|----------------------------|--|--|
| Model      | Code      | For screws with shank Ø mm |  |  |
| NJR23-RR20 | 199923120 | 2                          | <ul style="list-style-type: none"> <li>• For any non-magnetisable material</li> <li>• With any recess</li> </ul> | To choose the screw suction system and tool be paired with it, see pages 18 onwards. |
| NJR23-RR23 | 199923123 | 2,3                        |  |  |
| NJR23-RR26 | 199923126 | 2,6                        |  |  |
| NJR23-RR30 | 199923130 | 3                          |  |  |
| NJR45-RR35 | 199923135 | 3,5                        |  |  |
| NJR45-RR40 | 199923140 | 4                          |  |  |
| NJR45-RR50 | 199923150 | 5                          |  |  |

### Technical features

- Feed voltage: 240 V, 50/60 Hz
- Operating voltage: 15 Volt c.c.
- Brushed DC motor

### Dimensions and weights

- NJ Models (134W x 215D x 139H) Weight: 3.7 kg
- NJR Models (134W x 274D x 139H) Weight: 4.4 kg

### Models available upon request

- Special models can be made available for screws with different recesses, following a thorough analysis of bit/screw head coupling efficiency
- Screws with washers can also be fed

### Standard equipment (provided with the presenter)

- 15V 1A c.c. electrical power supply
- Screwdriver and hexagonal key for adjustments
- Earth connection cable
- Bit magnetiser (code 611109116) - for NJ model only
- Use and maintenance manual
- Eco-friendly packaging

The supply includes: presenter, 1 rail and standard equipment.

For further information about these models and other self-feeding assembly need, please contact [Fiam Technical Advice service](#).

### Accessories available upon request

- 6.35 mm bits with hexagonal drive (ISO 1174) and Phillips/Pozidriv tip

- Special bits with lengths different from those in the drawing

- **Rails:** to use the same unit with different screws.

| Model | Screw shank Ø mm | Rail model | Rail code | Model | Screw shank Ø mm | Rail model | Rail code |
|-------|------------------|------------|-----------|-------|------------------|------------|-----------|
| NJ23  | 2                | R 20       | 649021001 | NJR23 | 2                | RR 20      | 649021101 |
| NJ23  | 2,3              | R 23       | 649021002 | NJR23 | 2,3              | RR 23      | 649021102 |
| NJ23  | 2,6              | R 26       | 649021003 | NJR23 | 2,6              | RR 26      | 649021103 |
| NJ23  | 3                | R 30       | 649021004 | NJR23 | 3                | RR 30      | 649021104 |
| NJ45  | 3,5              | R 35       | 649021005 | NJR45 | 3,5              | RR 35      | 649021105 |
| NJ45  | 4                | R 40       | 649021006 | NJR45 | 4                | RR 40      | 649021106 |
| NJ45  | 5                | R 50       | 649021007 | NJR45 | 5                | RR 50      | 649021107 |

The screw presenter model can be changed just by replacing the rails.

For example: the NJ/NJR 23 model can be configured with R/RR 20/23/26/30 rails while the NJ/NJR 45 model can be configured with R/RR 35/40/50 rails.