New automatic screw feeding system

- CA...A air screwdriver with forward bit stroke
- CA...T air screwdriver with telescopic device
The right solution to improve the productivity

A concentrate of innovation for a faster productive process: this is the new tightening system EasyDriver.

The tightening system EasyDriver is particularly suitable for large and medium batch of equal screws; it offers important benefits to improve the productivity: the screw is automatically sent from the bowl to the screwdriver head and it is possible to start tightening immediately.

Evident reduction of the tightening cycle times, saving almost 40%; the manual phases (such as picking up the screw and positioning it correctly on the workpiece) are eliminated; they considerably reduce the rhythm of the assembly process.

This extraordinary solution consists of:

**New automatic screw feeding system**
This innovative screw feeding system, designed and manufactured by Fiam in compliance with new Directive 2006/42/EC, manages the working cycle and guarantees high flexibility, as it is possible to quickly and easily set and manage the tightening cycle basing on the specific application.

**New autofeed air screwdriver**
with patented FORWARD BIT STROKE.
It works everywhere also on tightening points where access is difficult (such as close to sidewalls) or where space is limited. Particularly components (like for instance varnished surfaces, electronic cards, etc.) are not damaged because the screwdriver works without touching the surface of the component.

**New autofeed air screwdriver**
with TELESCOPIC device.
It works with high speed and optimum grip at different depths or on inner holes. Aside from guaranteeing reliable tightenings and continuous working cycles with no screw jams, the version with 2 sensors controls the final screw height.

**Vibrating bowl**
with good capacity for improved working autonomy.

**Transparent cover**
is big and soundproof for a better view of the inside without having to open the machine

**PLC**
adjusts all machine parameters depending on tightening needs.
allows to easily monitor and change the productive cycle.

**Functional keypad**
it adjusts easily and directly the machine parameters.

**Filter and lubrication unit**
with compressed air pressure gauge filters the air and maintains constant the machine feed guaranteeing suitable lubrication of the tool.
**New over-load sensor**
makes sure no screw gets stuck in the selection duct guaranteeing high and uninterrupted production.

**Feeding hoses**
which make the passage of the screw easier and quicker with no chance of getting stuck.

**The screw is shot inside a closed chamber**
which optimises screw speed and consequently the productive process.

**Autofeed air screwdriver**
- with forward bit stroke
- with telescopic device

**External structure**
of small dimension; it can be dismantled easily for maintenance.

**Light leds**
to monitor the different phases of working cycle.

**Structure in stainless steel**
to guarantee long lifetime.

**Selector**
it increases speed and productivity and guarantees selector's calibration parameters do not change.
A careful design guarantees long lifetime and reliability of the components which results in high productive process, less maintenance and repair costs.

**Reliability**

Screw feeding system

Designed and manufactured by Fiam in compliance with new Directive 2006/42/EC. New design in stainless steel guarantees long lifetime.

The PLC (Programmable Logic Controller), integrated into the feeder, manages the working cycle of the tightening system EasyDriver and guarantees high flexibility, as it is possible to quickly and easily set and manage the tightening cycle basing on the specific application.

The new over-load sensor makes sure no screw gets stuck in the selection duct guaranteeing high and uninterrupted production (the optical fibre detects the screw after a length of time established by the PLC and activates a solenoid valve that produces a jet of air that gets rid of any surplus screws).

The selector is still extremely reliable even when the EasyDriver is subject to logistic moves; in fact, the selector’s calibration parameters do not change thanks to its new more solid and compact design and to new screw device for accurate height adjustment.

New feeding hose, customized depending on type of screw, made of memory-shape soft and flexible polyurethane, makes screw passage easier and quicker, reducing friction.

Extremely safe and reliable packing for shipment to guarantee system integrity and performance. Upon request, packing in wooden case is available.

Screw feeding system is equipped with high quality air components.

**Productivity**

Considerable increase of the efficiency of the productive cycle thanks to innovative systems.

**Screw feeding system**

Machine parameters can be adjusted easily and quickly directly via the PLC’s functional keypad.

Good capacity of the bowl: 1lt. for improved working autonomy.

Designed to allow easy maintenance and component replacing; in fact, the exterior structure is easily and quickly removed to access all its inside parts.

Thanks to the PLC (Programmable Logic Controller) it is possible to make several adjustments: bowl vibrating time, screw shooting time, parameters of optical sensor, and bowl vibrating time after screw shooting.

The high frequency selector increases speed considerably and therefore system productivity.

The screw is shot inside a closed chamber which optimises screw speed considerably: there is no longer any dissipation of compressed air and power is concentrated entirely on speeding up the screw’s path.

The filter and lubrication unit complete of air gauge filters the air and maintains constant the machine feed guaranteeing suitable lubrication of the tool.
Optimization of the tool and of the screw feeder performances in regard to ergonomics and operator safety

**Screw feeding system**

**Volumes** have been reduced for easy inclusion in the production areas and for easy logistics management.

The transparent cover is bigger for a better view of the inside without having to open the machine.

**New materials** used for improve soundproofing.

The system design is compliant with new Directive 2006/42/EC.

**High reduction of electricity consumption**: the vibrator’s special timed system stops the screw feed automatically when it is not required, thus eliminating unnecessary electricity consumption.

The screw is shot inside a closed chamber which optimises the power of compressed air because there is no longer dissipation.

The torque control system TRACS2 has a high running speed which reduces the working time of the screwdriver and the compressed air consumption.

**ECO-CONTRIBUTION WEEE ACQUITTED**: for electronic accessories, Fiam carries out its obligations of producer, with full respect for the environment, and without any extra charge for the customer.

Designed to ensure all maintenance operations easy, safe and reliable, in compliance with new Directive 2006/42/EC.

All system operations are managed by PLC.

Ergonomics

Ecology

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

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

Perfection is in your hands

Naturally innovative

Ergonomics

Ecology

Designed to ensure all maintenance operations easy, safe and reliable, in compliance with new Directive 2006/42/EC.

All system operations are managed by PLC.
New air screwdriver with forward bit stroke

**Best reliability, maximum productivity**

The autofeed screwdriver with immediate and automatic air shut-off guarantees **accurate, reliable, constant tightenings cycle by cycle. It works everywhere** also on tightening points where access is difficult (such as close to sidewalls) or where space is limited.

The patented forward bit stroke allows to **tighten any type of product**. With critical materials such as varnished surfaces or electronic cards, it **doesn’t damage the components** because it works without touching the surfaces of the component. The screw bit protruding from the jaws eases positioning on the workpiece and reduced the risk of incorrect tightening.

Thanks to its automatic thrust of 30 Kg, it represents the ideal solution to **work with minimum effort**.

**Pistol version:**

For **pistol grip models**, two control buttons are available:

- one to start tightening
- one to master screw shooting

**No effort to tighten**

- The forward bit stroke, through its 30 Kg. of thrust, guarantees high force to ensure a reliable tightening on any type of joint
- The **grip position**, close to the tightening point, favours the operator with centering the component to be tightened

**Noiseless**

The screwdrivers are extremely noiseless

**They can be used in any position,**

from downwards to upwards, and in very restricted places. The **easy handling** is guaranteed since the grip is closer to the screwdriver’s head

**Quick unlocking system**

for fast and safe bit replacement

**Rotation of the head at 120°**

The particular device allows also a **practical rotation of the head in 3 positions at 120°**. Thus, the position of the head can be adjusted based on the encumbrance on tightening points

![Image of a screwdriver with forward bit stroke](image)
Easy adjustment of the external clutch
Practical and fast: the housing has a groove for clutch spring adjustment

High torque repeatability
The modern TRACS2 torque control system (Torque Repeatability and Accuracy Control System) with automatic and immediate air shut-off guarantees high torque repeatability

Vibration levels below 2.5 m/s²
The modern TRACS2 torque control system reduces torque reaction. Thanks to the immediate automatic air shut-off system and the design of the internal gears, the vibration levels are below 2.5 m/s² in compliance with new standards in terms of vibrations to the hand-arm system

Easy and functional starting system
Practical and fast start lever: with a click the tightening starts, with a double click the screw is shooted.
An efficient and safe system to avoid screw jams and machine stops

Two versions...

With screw at sight and internal bit
For models with screw at sight and internal bit, when the screwdriver starts, the patented device maintains visible the screw to the operator and doesn’t allow the screw to back up, making every tightening operation easy and fast.
The screw is held in position by the jaws and the bit, while the screw shank remains visible for a more practical centering of the tightening point.

With screw at sight and external bit
Models with screw at sight and external bit, particularly ideal to tighten where access is difficult or space is limited, easing operator’s work and avoiding wrong positions of the hand-arm system.
The screw is held in position by the magnetic bit which ejects from the head completely. Bit ejection in respect to the jaws varies depending on the dimensions of the head being used.

Extremely safe
The absence of electrical power devices on the screwdriver eliminates dangerous sources of potential electric shocks

<table>
<thead>
<tr>
<th>Model of screw head</th>
<th>Max length of bit ejection*</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTV - P</td>
<td>mm 21</td>
</tr>
<tr>
<td>TTV - G</td>
<td>mm 18</td>
</tr>
<tr>
<td>TTV - M</td>
<td>mm 15</td>
</tr>
</tbody>
</table>

* The length of the bit ejection can change depending on the type of screw
All Fiam innovation in your hands

If you need to tighten in deep holes, this innovative **autofeed air screwdriver with TELESCOPIC device** is the right solution because it works with **high speed, optimum grip and with different depths**.

Equipped with TRACS2 torque control system with immediate and automatic air shut-off to guarantee **accurate, reliable, constant tightenings**, this air screwdriver is extremely reliable because it ensures **continuous working cycles with no screw jam**: in fact the built-in sensor of screw shooting, by monitoring the head stroke, avoids shooting of a new screw until the ongoing tightening cycle has been performed. A great advantage for operator’s productivity because it **avoids screw jams**.

Available also in version with two sensors where, aside from guaranteeing tightening reliability and continuous working cycles, the second sensor controls the final screw height.

Telescopic device permits to work at required depth

**Noiseless**
The screwdrivers are extremely noiseless.

**Grip**
Available also with pistol grip and with push or button start.

**Quick unlocking system**
for fast and safe bit replacement.

**Rotation of the head at 120°**
The particular device allows also a **practical rotation of the head in 3 positions at 120°**. Thus, the position of the head can be adjusted based on the encumbrance on tightening points.
Double advantage of the model with 2 sensors that can work with torque control or height control

The second sensor integrated into the tool can be activated or disabled through a selector positioned on screw feeding system: it permits to work by controlling the tightening height.

In this case the clutch of the motor is inhibited and the motor stops because the sensor stops motor feeding.

Easy and functional push-to-start system
- Extremely reliable because ensuring the screwdriver to be axially in line with the component to be tightened
- The grip position, close to the tightening point, helps the operator in centering the component to be tightened

Easy adjustment of the external clutch
Practical and fast: the housing has a groove for clutch spring adjustment

High torque repeatability
The modern TRACS2 torque control system (Torque Repeatability and Accuracy Control System) with automatic and immediate air shut-off guarantees high torque repeatability

Vibration levels below 2,5 m/s²
The modern TRACS2 torque control system reduces torque reaction. Thanks to the immediate automatic air shut-off system and the design of the internal gears, the vibration levels are below 2,5 m/s² in compliance with new standards in terms of vibrations to the hand-arm system

Extremely safe
The absence of electrical power devices on the screwdriver eliminates dangerous sources of potential electric shocks

SCREW SHOOTING sensor
It monitors the head stroke and avoids shooting of a new screw until the ongoing tightening cycle has been performed

SCREW HEIGHT sensor
Upon request, it can be activated or disabled on the screw feeding system and permits to control the screw final height

Second sensor for tightening height (integrated into the tool)
### Technical features of the tightening system EasyDriver

**• Autofeed air screwdriver**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Torque (Nm)</th>
<th>RPM</th>
<th>Type</th>
<th>Weight (kg)</th>
<th>I/s</th>
<th>Drive</th>
<th>dBA</th>
<th>m/s²</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA - 15/26...A - A</td>
<td>1-5</td>
<td>8.85-44.25</td>
<td>650 ± 2000</td>
<td></td>
<td>1.8</td>
<td>3.96</td>
<td>5 ± 9</td>
<td>10-32 UNF</td>
<td>&lt;80</td>
</tr>
<tr>
<td>CA - 15/26...A - P - A</td>
<td>1-5</td>
<td>8.85-44.25</td>
<td>650 ± 2000</td>
<td></td>
<td>1.8</td>
<td>3.96</td>
<td>5 ± 9</td>
<td>10-32 UNF</td>
<td>&lt;80</td>
</tr>
<tr>
<td>CA - 15/26...A - T/T2</td>
<td>1-5</td>
<td>8.85-44.25</td>
<td>650 ± 2000</td>
<td></td>
<td>1.1</td>
<td>2.42</td>
<td>5 ± 9</td>
<td>10-32 UNF</td>
<td>&lt;80</td>
</tr>
<tr>
<td>CA - 15/26...A - P - T/T2</td>
<td>1-5</td>
<td>8.85-44.25</td>
<td>650 ± 2000</td>
<td></td>
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<td>5 ± 9</td>
<td>10-32 UNF</td>
<td>&lt;80</td>
</tr>
</tbody>
</table>

**Legend**

- CA = Screw feeding system
- 15/26 = Motor power of the screwdriver in Watt/10
- C = Air screwdriver
- ... = Max torque in Nm
- A = Torque control system with air shut-off
- P = Pistol
- A = Screwdriver with forward bit stroke
- T = Screwdriver with telescopic device
- T2 = Double-sensor telescopic screwdriver

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 screws, 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 place 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.

### Screw feeding system

**Air connection:** 3/8” F

**Power features:**
- 220 V/50 Hz - Optional
- 220V/60 Hz and 110 V/60 Hz

**Maximum feed:**
- 120 screws/minute

**Air consumption:**
- 13 l/s

**Noise level:**
- <80 dBA

**Diameter of the bowl:**
- ø 220 mm

**Capacity of the bowl:**
- 1 litre

**Weight:**
- 36 Kg

**Connecting hose to the screwdriver:**
- 4 m

**Dimensions (mm):**
- L 450 x W 340 x H 400
How to choose a tightening system EasyDriver

To choose a tightening system EasyDriver we have to consider:

- Material to tighten (plastic, wood, steel, etc.)
- Dimensions of component to assemble
- Tightening torque and speed

but the most important is the screw.

The tightening system EasyDriver is able to tighten:

- any screws: metric, self-threading, self-tapping, self-drilling, three-lobe, etc.
- any type of head: countersunk, flat, cylindrical, oval, etc.
- any type of imprint: slotted, cross-slotted, torx, hex socket screw, hex head) and with knurled washer under the head too.

Screw features for standard EasyDriver solutions:

- Dimensions of the head (D): \( \varnothing 4.5\text{ to }10.5\text{ mm} \)
- Total length of the screw (h): from 8 up to 35 mm
- Screws with hexagonal head: Hexagon max 7 mm

Total length of any screw* must be minimum 1.5 times of the head diameter

example: \( \varnothing \) head screw = 8 mm
Min h (height) = 12 mm (12 : 8 = 1.5)

* For hex. screws contact Fiam Technical Consultancy Service

When screws have different parameters, contact Fiam Technical Service

Remember that every customized EasyDriver solution depends on screw type and on component to be tightened. In order to check feasibility, a data entry form has to be filled-in. Moreover, it is always necessary to supply screws and component samples.

.bit nr. | Phillips code | Pozidrive code
---|---|---
1 | 635050010 | 635060002
2 | 635050011 | 635060007

For other bits, see Accessories catalogue nr. 78

Standard Cartesian arm BC25/4... for more ergonomic tightening operations

- Auxiliary grips to transform straight screwdrivers into pistol screwdrivers
- Wooden case for shipment:
  code 683050046 (kg. 11 of case weight)
  Dimensions mm: L650x500xh715

Models available upon request

- Models with screwdriver equipped with rotating piston
- Models for use with 110 Volt/60 Hz, 220 Volt/60Hz power supplies
- Models with different screw dimensions than those indicated
- Models with slip clutch
- Telescopic models with lever start

For other models please apply to the Fiam Technical Consultancy Service

Accessories available upon request

- Threaded bits 10/32"
- Cartesian arm BC25/4 for EasyDriver with ‘self-worker/ar thrust device with balancer and auxiliary grip
- For other bits, see Accessories catalogue nr. 78
- Standard Cartesian arm BC25/... for more ergonomic tightening operations
- Auxiliary grips to transform straight screwdrivers into pistol screwdrivers
- Wooden case for shipment:
  code 683050046 (kg. 11 of case weight)
  Dimensions mm: L650x500xh715

Standard equipment (supplied with the system)

- Three bits
- Clutch adjustment key
- Keys for screw feeder’s use and maintenance
- Hanging ring
- Use and maintenance manual
- Eco-friendly packaging in paperboard (weight kg. 3)
  Dimensions: mm L600x450xh620

• For hex. screws contact Fiam Technical Consultancy Service
**How to order a customized system EasyDriver**

To receive in very short-time a customized offer, complete the following form and send it by fax +39 0444 385002. For information about the following form or other technical informations contact the Fiam Technical Consultancy Service.

### Screws features
- **Heads**
  - Flat
  - Countersunk
  - Cylindrical
  - Oval
  - Hexagonal
  - Oval Countersunk
  - Oval Cylindrical
- **Impress**
  - Phillips
  - Pozidrive
  - Slotted
  - Hex Socket
  - Torx
  - Hex

### Dimensions of the screw
- **Standard screw**
  - D = ____________ mm
  - H = ____________ mm
  - L = ____________ mm
  - d = ____________ mm
- **Knurled washer under the head**
  - D = ____________ mm
  - H = ____________ mm
  - L = ____________ mm
  - d = ____________ mm

### Torque
- **Nm**
- **%**
- **Rpm**

### Materials:
- Wood
- Plastic
- Aluminium
- Steel
- Iron
- Other

### Screws features

#### Tightening type
- **Type of tightening**
  - Horizontal
  - From bottom towards the top
  - From the top towards the bottom
  - Other: ____________ Degrees

#### Position of tightening
- **Near to wall**
- **Embedded**
- **Plane surface without obstruct**

### Ergonomic auxiliaries
- Balancer
- BC25 cartesian arm
- Cartesian arm with air thrust device selfworker
- Auxiliary grip

### Other details
- **Particular solution in order to not damage the piece:**
  - no
  - yes
- **Length of the screw feed hose (4 mt supplied as a standard): other length**
  - no
  - yes
- **Feeding pressure in line:**
  - 220V, 50Hz
  - other
- **Screws samples sent:**
  - no
  - yes
- **Pieces samples sent:**
  - no
  - yes
- ** Packaging in wood case (cod. 683050046)**

*Without screws or incomplete information Fiam offers only an indicative feasibility.*

**Compiled by________________________**
**Tel.________________________**
**Company________________________**

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*Quality Management System Certificate*  
*Environmental Management System Certificate*