



**Reliability**

**Productivity**

**Ergonomics**

**Ecology**

Be demanding

Don't be satisfied  
with the maximum

Perfection is  
in your hands

Naturally  
innovative

## **FIAM COMPONENTS FOR INDUSTRIAL TIGHTENING AUTOMATION. A VALUABLE CHOICE.**

Fiam components for industrial automation represent a **'valuable choice'** because they are designed and built to guarantee **long life, great reliability and the best performances** when they are installed on semi-automatic or automatic assembly machines.

These advantages result in less maintenance and repair costs and a considerable increase of the **efficiency of the productive cycles.**

Available also in **customized version** based on the customer's requirements, they are able to satisfy every customer's need.

## **True innovation starts from great experience**

Here at Fiam, we provide **effective solutions**, in terms of **product and service**, with the aim to support the customer in manufacturing solutions for industrial automation foreseeing **assembly through threaded elements**. Our 60 years of **specialist**

**knowledge of the industrial tightening process** in its every form constitute the **solid, exclusive basis on which we build automatic tightening solutions** for every field of use. All components for automation are **entirely designed in Fiam**. However, no solution qualifies

as truly excellent unless it goes beyond what it has achieved in terms of the assembled product. This is when we speak of service, which demands just as much effort in listening, replying and satisfying customer needs. For every customer, worldwide.

# We've aimed to turn each one of your investments into a competitive and financial advantage

Choosing Fiam components in order to design and manufacture semi-automatic and automatic industrial machines means:

- **Wide range of components available on stock**
- Choosing **innovative solutions** designed and manufactured to guarantee **reliability and long life**
- Possibility to **always customize each component** following the application where it is being used
- **Specialized Fiam consultancy about industrial tightening processes** for an accurate product choice
- **Excellent performance** of the final solution
- Careful and punctual **after-sale service**.

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# CIRCULAR FEEDERS

Circular feeders are fundamental instruments for semi-automatic or automatic tightening systems where continuous screw feeding is required.

These solutions can be adapted to many applications also with different working conditions; materials used for the feeders have peculiar features, like for instance the adiprene wear resistant material with which the bowl is coated, ensure **high reliability over time** and ensure sound-proof working environments.

**Productivity is ensured by the high capacity of the feeders;** two models with different feeding capacity are available.

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| Component | Model   | Description     |
|-----------|---------|-----------------|
| 1         | ALC 150 | Circular feeder |
| 2         | ALC 300 | Circular feeder |

## TECHNICAL FEATURES

|  |   |
|--|---|
| <b>VIBRATING BASE</b>                            | Ø 150 mm (mod. ALC 150)<br>Ø 300 mm (mod. ALC 300)  |
| <b>ELECTRIC POWER</b>                            | 220 V 50 Hz - 110 V 60 Hz   |
| <b>FREQUENCY OF VIBRATION</b>                    | 100 Hz  |
| <b>ALUMINIUM BOWL COATED WITH ADIPRENE</b>       | Ø 245 mm (mod. ALC 150)   |
| <b>STAINLESS STEEL BOWL COATED WITH ADIPRENE</b> | Ø 360 mm (mod. ALC 300)   |
| <b>ROTATION</b>                                  | clockwise   |
| <b>FEEDING CAPACITY</b>                          | max 100 screws/min. (for medium screw)  |
| <b>SCREW OUTLET DUCT</b>                         | (F) tangential  |
| <b>SCREWS CAPACITY</b>                           | 1 litre (mod. ALC 150)<br>1,5 litre (mod. ALC 300)<br>(depending on the screw dimensions) |
| <b>WEIGHT</b>                                    | 14,5 Kg (mod. ALC 150)<br>35,4 Kg (mod. ALC 300)  |
| <b>ANTI-VIBRATION STEM</b>                       |   |
| <b>SELF-EXTINGUISHING POWER CABLE</b>            |   |



The photo shows an application of Fiam ALC feeder

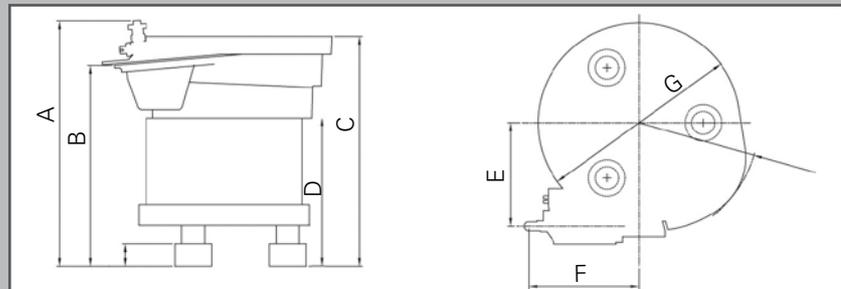
Since the feeder is customised and adjusted on customer screw, in case of order it is necessary to avail of screws for customizing it (1500/2000 screws).

## RECOMMENDED SCREW TOLERANCE PARAMETERS FOR A PROPER PERFORMANCE OF THE EQUIPMENT

|                                      |                                   |   |
|--------------------------------------|-----------------------------------|---|
| <b>0,25 mm on the head diametre</b>  | <b>1,5 mm on the shank length</b> | <b>0,10 mm on the shank/head eccentricity</b>   |
| <b>0,10 mm on the shank diametre</b> | <b>0,20 mm on the head height</b> | <b>0,10 mm on the imprint/head eccentricity</b> |

## INDICATIVE DIMENSIONS (mm)

| Model          | A   | B   | C   | D   | E   | F   | G   |
|----------------|-----|-----|-----|-----|-----|-----|-----|
| <b>ALC 150</b> | 270 | 221 | 230 | 140 | 114 | 120 | 245 |
| <b>ALC 300</b> | 330 | 285 | 320 | 200 | 195 | 170 | 350 |



For maintenance, it is recommendable not to use magnets to remove screws from the bowl: by doing so, there is the risk to magnetize the bowl and, consequently, the screws and compromise bowl feeder performance.

## 'OVERLOAD' SENSORS

With assembly systems foreseeing automatic screw feeding, the "overload" sensor is an important device to be applied to the circular feeder aluminium bowl in order **to improve the feeding constancy and continuously ensure system operation.**

The control of the screw quantity on the feeder tracks is guaranteed by **an optical fibre or a photocell** employed with the aim to prevent screws getting stuck in the selection duct. As the optical fibre or the photocell detect the screws, they activate an electro-valve which is producing an air flow eliminating excess screws.

**In such a way situations of screws getting stuck as well as machine stop are avoided, resulting into greater reliability and improved effectiveness in the working cycle.**

| Component | Model    | Description                          |
|-----------|----------|--------------------------------------|
| 3         | STP - FO | 'Overload' sensor with optical fibre |
| 3         | STP - FC | 'Overload' sensor with photocell     |

### TECHNICAL FEATURES

SUPPORT

OPTICAL FIBRE OR PHOTOCELL

ELECTRONIC AMPLIFIER (only for STP-FO model)

N.B. In case pre-arrangement of the pneumatic supply is being made by the customer, it is necessary to foresee an electrovalve (a "2-way" type) for the connection of the overload sensor.



The photo shows an application of a Fiam overload sensor with optical fibre



The photo shows an application of a Fiam overload sensor with photocell

## ELECTRONIC CONTROLLER

This component is a necessary tool for **adjusting the amplitude of vibration** produced by the circular feeder. Of modern conception, it guarantees perfect synchronization with the system in all conditions.

It is equipped with a progressive start device to be selected. Appropriately over-dimensioned power stages are provided to handle any overloads without interruption, whether operating at **50** or **60 Hz**. **Highly linear range of adjustment**, as well as provision for **setting the maximum and minimum** vibration limits. It is also equipped with a silencing filter to eliminate any frequency peaks in working environments.

Vibration adjustment is made through an external potentiometer; however access may be made to the PC board for readjustments of the minimum and maximum.

An ON-OFF type control with signal control contact is foreseen.

It is supplied already set in standard version. It can be supply with board or IP 55 box.

Specific output connector type can be agreed prior to delivery.

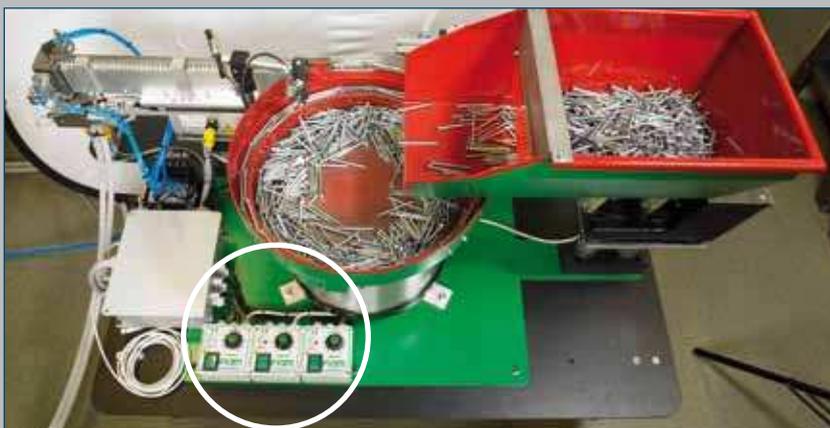
| Component | Modell | Description           |
|-----------|--------|-----------------------|
| 4         | CNT    | Electronic controller |

### TECHNICAL FEATURES

|                        |                                   |
|------------------------|-----------------------------------|
| TENSION OF FEEDING     | 115 - 230V +/- 5% 50/60 Hz        |
| CONSUMPTION            | 1,5 W max                         |
| CURRENT MAX            | 3,15A - 6,3A (RMS)                |
| LOAD MIN.              | 50 mA (RMS)                       |
| ON-OFF CONTACT         |                                   |
| FREQUENCY OF VIBRATION | 3000/6000 cycles to minute (50Hz) |
| RAMP FUNCTION          | to be selected ON/OFF             |
| ADJUSTMENT MIN.        | 80V +/- 30%                       |
| ADJUSTMENT MAX         | 220V - 30%                        |
| ASSEMBLY POSITION      | horizontal or vertical            |
| DEGREE OF PROTECTION   | IP55 in box                       |



The photo shows an application of the Fiam electronic controller



The photo shows an application with 3 Fiam electronic controllers

# SCREW FEEDING AND SELECTOR UNITS

Fiam proposes screw feeding systems which are being supplied **already assembled and commissioned**. Their features allow to rationalize working posts, thanks to the continuous screw feeding and to the high bowl feeder capacity, allowing **faster and more productive assembly operations**. Such solutions, designed and built by Fiam, are ideal for customers wanting to **integrate such systems in their existing or future production** (on machines and/or semi-automatic or automatic assembly lines).

Screw feeding units can be of **two types**, namely one or two ways, or from three ways or more, depending on the number of screws that are to be fed.

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## STANDARD EQUIPMENT

### 1-2 way screw feeding unit

- Nr. 1 circular feeder (modd. ALC 150 or ALC 300)
- Nr. 1 overload sensor (mod. STP)
- Nr. 1 electronic controller (mod. CNT)
- Nr. 1 selector (1 or 2-way) complete with air feeding inlets and air flow governors (modd. SL1v or SL2v)
- Screw passage sensor for each screw shooting hose (modd. SPV or SPV-100SM or SPV-S):
  - nr. 1 for 1-way selector
  - nr. 2 for 2-way selector
- Nr. 1 limit switch position sensor for each cylinder
- Nr. 1 steel plate (base for fixing all components)
- Screw shooting hose mt. 5:
  - nr. 1 for 1-way unit
  - nr. 2 for 2-way unit



2-way screw feeding unit

### Screw feeding unit with 3-way and more

- Nr. 1 circular feeder (modd. ALC 150 or ALC 300)
- Nr. 1 overload sensor (mod. STP)
- Nr. 1 electronic controller (mod. CNT)
- Nr. 1 2-way selector complete with air feeding inlets and air flow governors (mod. SL2v)
- Nr. 1 adequate distributor (mod. RP..V)
- Screw passage sensor for each screw shooting hose (modd. SPV or SPV-100SM or SPV-S)
- Nr. 1 limit switch position sensor for each cylinder
- Nr. 1 steel plate (base for fixing all components)
- Screw shooting hose mt. 5:
  - nr. 3 for 3-way unit
  - nr. depending on number of ways



4-way screw feeding unit

| Component | Model               | Description                            |
|-----------|---------------------|--|
| 23        | GR. AL... - 150/300 | 1-2 way screw feeding unit             |
| 23        | GR. AL... - 150/300 | Screw feeding unit with 3-way and more |

For order supply screw and/or drawing of screw complete with reference legislation for customized versions

## 1-WAY SELECTOR

The 1-way selector is an **important component** positioned at the outlet of the duct next to the circular screw feeder, **used to separate and send the screws singly** from the feeder. Once the screw falls into the hose, it is shot to the tightening point.

It guarantees **high productivity** and **efficient tightening cycle** thanks to the high proposed supply rate: a total of **120 medium-sized screws per minute**.

Completely **designed and manufactured by Fiam** with high quality materials, it guarantees high reliability and long lifetime also with high productive rhythms.

| Component | Model | Description    |
|-----------|-------|----------------|
| 5         | SL 1V | 1-way selector |

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### STANDARD EQUIPMENT

- 1 pneumatic magnetic cylinder and 1 limit switch position sensor
- 2 air feeding inlets complete with air flow governors
- 1 support column and relative bracket for positioning the sensor at different heights

*The configuration shows a 1-way selector with a circular screw feeder*



*This component can also be ordered singularly: in case of order, please always supply screw and screw drawing complete with reference legislation for customized versions.*

## 2-WAY SELECTOR

The 2-way selector is an **important component** positioned at the outlet of the duct next to the screw feeder, **used to separate and send the screws singly from the feeder and send them in two different ways**.

A particularly interesting feature is the extreme compactness of this solution; in respect to the 1-way selector, it has one additional pneumatic cylinder and relevant sensors.

Besides from a great versatility of use, the system guarantees a high efficiency of the tightening cycle for a higher productivity. The selector can **be combined with a divider following the screw output ways required by the application**.

Completely **designed and manufactured by Fiam** with high quality materials, it guarantees high reliability and long lifetime also with high productive rhythms.

| Component | Model | Description    |
|-----------|-------|----------------|
| 6         | SL 2V | 2-way selector |

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### STANDARD EQUIPMENT

- 2 magnetic pneumatic cylinders and 2 limit switch position sensors
- 4 air feeding inlets complete with air flow governors
- 1 support column and relative bracket for positioning at various heights

*This component can also be ordered singularly: in case of order, please always supply screw and screw drawing complete with reference legislation for customized versions.*



*The configuration shows a 2-way selector*

## SCREW DISTRIBUTORS

This unit is positioned just **after the 2-way screw selection system**.

It enables to feed and **shoot from 3 up to 8 screws at a time** guaranteeing high productivity. In fact more tightening systems can be fed and more components can be assembled at the same time.

**Designed and manufactured by Fiam** with high quality materials, they guarantee high reliability and long lifetime also with high productive rhythms.

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| Component | Model | Description       |
|-----------|-------|-------------------|
| 7         | RP 3V | 3-way distributor |
| 8         | RP 4V | 4-way distributor |
| 9         | RP 5V | 5-way distributor |
| 10        | RP 6V | 6-way distributor |
| 11        | RP 7V | 7-way distributor |
| 12        | RP 8V | 8-way distributor |

### STANDARD EQUIPMENT

- Magnetic pneumatic cylinders
- Limit switch position sensors



The photo shows a 2-way selector with a 8-way distributor

This component **can also be ordered singularly together with the 2-way screw selector**: in case of order, please always supply screw and screw drawing complete with reference legislation for customized versions.

## SCREW HEADS

This component is required in order to hold the screw coming from the bowl feeder through the feeding hose and guide it before it is tightened on the workpiece. Holding the screw is necessary in order to enable the bit to lower onto the screw and proceed to tightening the component. The head is equipped with jaws which are opening to release the screw when the bit starts tightening the screw on the component.

Screw heads are **extremely reliable** as they are built with **highest quality materials** through precise and accurate machining which, together with the treatments, **guarantee high resistance to breaking and wearing**.

Available in various models suitable for screw found in the market.

**Screw heads with anti-overturning device (AR)** are available for screws with screw length/head diameter ratio lower than 1,5:

- TTV - P/G/M - AR - S models can be used on triple-stroke slides and therefore for automatic use
- TTV - P/G/M - AR models can be used on manual autofeed systems

All screw heads can be customized by Fiam depending on customer's need.

For further information please contact **Fiam Technical Consultancy Service**.

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| Component | Model          | Description            |
|-----------|----------------|------------------------|
| 13        | TTV - P        | Screw head - P         |
| 13        | TTV - G        | Screw head - G         |
| 13        | TTV - M        | Screw head - M         |
| 13        | TTV - P - AR S | Screw head - P - AR S* |
| 13        | TTV - G - AR S | Screw head - G - AR S* |
| 13        | TTV - M - AR S | Screw head - M - AR S* |
| 13        | TTV - P - AR   | Screw head - P - AR**  |
| 13        | TTV - G - AR   | Screw head - G - AR**  |
| 13        | TTV - M - AR   | Screw head - M - AR**  |

\* To be used only on triple-stroke slide and for automatic use

\*\* To be used on manual autofeed systems



For order supply screw and/or drawing of screw complete with reference legislation for customized versions.



The photo shows a special head for holding screws for flat screw M8 with ratio length screw/diameter head equal to 0,9 and installed on triple-stroke slide.

## TECHNICAL FEATURES

**THE RELATIONSHIP BETWEEN THE Ø OF THE SCREW HEAD AND THE OVERALL LENGTH OF THE SCREW MUST BE SUPERIOR/EQUAL 1,5 (SEE CHARTS BELOW)**

E.g.: Ø screw head = 7 mm, the minimum overall length of the screw must be 10,5 mm. The overall length of the screw must be at least 10 mm.

E.g.: Ø screw head = 8 mm, the minimum overall length of the screw must be 12 mm.

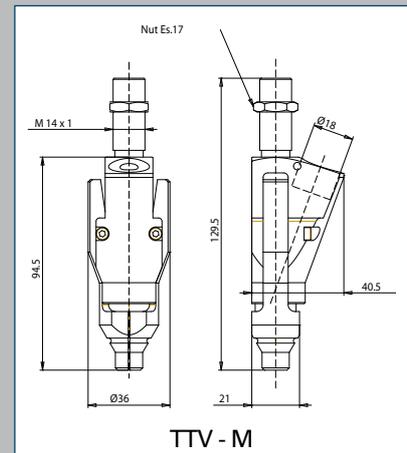
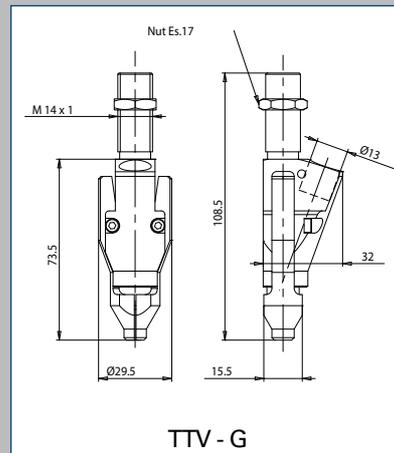
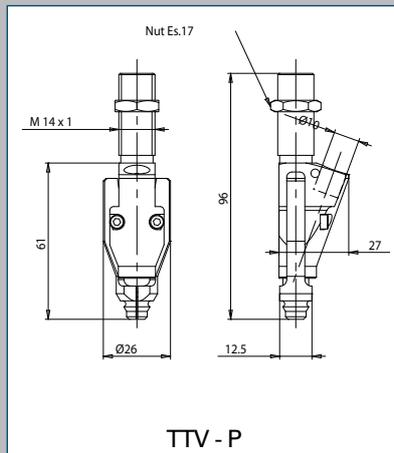
E.g.: Ø screw head = 14 mm, the minimum overall length of the screw must be 21 mm.

| Ø head screw (mm) | Overall length of the screw (mm) |
|-------------------|----------------------------------|
| 4,5 ÷ 7,0         | max 25                           |

| Ø head screw (mm) | Overall length of the screw (mm) |
|-------------------|----------------------------------|
| 7,1 ÷ 10,0        | max 35                           |

| Ø head screw (mm) | Overall length of the screw (mm) |
|-------------------|----------------------------------|
| 10,1 ÷ 13,5       | max 35                           |

DIMENSIONS in mm



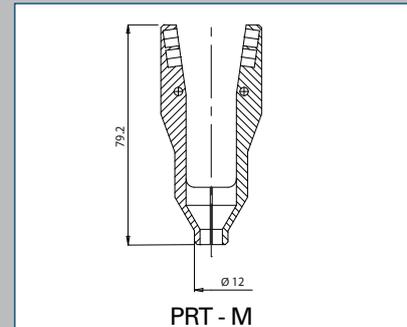
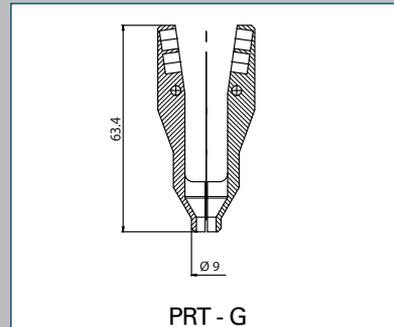
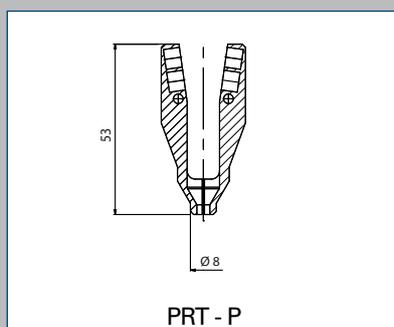
## JAWS

The jaws are the device for holding screws lodged in the head. Alike the screw head, jaws are available in 3 sizes which can be combined with the heads selected basing on screw dimensions.

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| Component | Model   | Description |
|-----------|---------|-------------|
| 13        | PRT - P | Jaw P       |
| 13        | PRT - G | Jaw G       |
| 13        | PRT - M | Jaw M       |

DIMENSIONS in mm



For order supply screw and/or drawing of screw complete with reference legislation for customized versions.

## BUSHES

The bushes are indispensable accessories for connecting the screw feeding hose to the head for holding screws. Bushes are of 3 sizes basing on the type/size of the screw head and are supplied customized basing on the screw and hose types. Materials of which they are made render bushes **extremely reliable over time also in presence of high production rates.**



Head bush P

The photo shows the bush installed on a tightening head



| Component | Model      | Description             |
|-----------|------------|-------------------------|
| 14        | BCC P 4    | Head bush P Ø int. 4    |
| 14        | BCC P 4,5  | Head bush P Ø int. 4,5  |
| 14        | BCC P 5    | Head bush P Ø int. 5    |
| 14        | BCC P 5,5  | Head bush P Ø int. 5,5  |
| 14        | BCC P 6    | Head bush P Ø int. 6    |
| 14        | BCC P 6,5  | Head bush P Ø int. 6,5  |
| 14        | BCC P 7    | Head bush P Ø int. 7    |
| 14        | BCC P 7,5  | Head bush P Ø int. 7,5  |
| 14        | BCC G 7,5  | Head bush G Ø int. 7,5  |
| 14        | BCC G 8    | Head bush G Ø int. 8    |
| 14        | BCC G 8,5  | Head bush G Ø int. 8,5  |
| 14        | BCC G 9    | Head bush G Ø int. 9    |
| 14        | BCC G 9,5  | Head bush G Ø int. 9,5  |
| 14        | BCC G 10   | Head bush G Ø int. 10   |
| 14        | BCC G 10,5 | Head bush G Ø int. 10,5 |
| 14        | BCC M 10,5 | Head bush M Ø int. 10,5 |
| 14        | BCC M 11   | Head bush M Ø int. 11   |
| 14        | BCC M 11,5 | Head bush M Ø int. 11,5 |
| 14        | BCC M 12   | Head bush M Ø int. 12   |
| 14        | BCC M 12,5 | Head bush M Ø int. 12,5 |
| 14        | BCC M 13   | Head bush M Ø int. 13   |
| 14        | BCC M 13,5 | Head bush M Ø int. 13,5 |
| 14        | BCC M 14   | Head bush M Ø int. 14   |

For order supply screw and/or drawing of screw complete with reference legislation for customized versions.

# INTELLIGENT INNOVATION IS MOVING SO

Fastening slides are important components equipped with air nutrunner motor, screw head, bit and bit holder, suitable for being used in **semi-automatic or automatic industrial tightening solutions**.

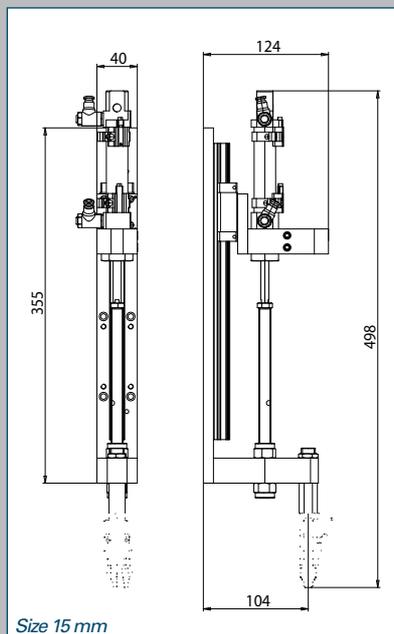
Their employment is ideal to **increase production cycles** maintaining a **high quality of the assembled product**, since all screws are tightened correctly and precisely, following a continuous and constant control of all tightening operations.

Fastening slides are **designed entirely by Fiam and are manufactured in Fiam** with high quality materials guaranteeing very high reliability and resistance over time, also in presence of high production rates.

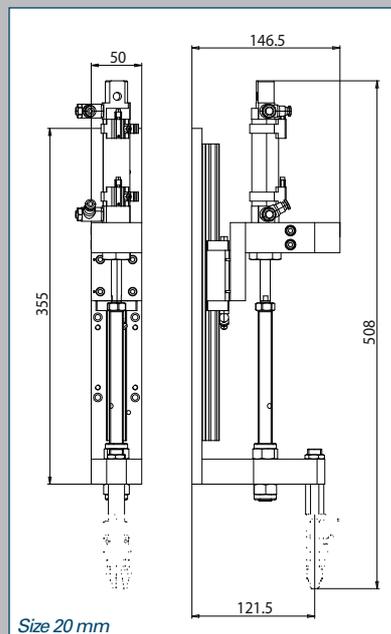
Thanks to their movement, fastening slides ensure **a perfect approach stroke of the motor - screw head to the component** to be tightened and are suitable also for applications in presence of **more tightening points with a very close distance to centre**. Their compact dimensions and the extremely low weight render these components extremely versatile and **employable on manipulators, electric axis and robots**. They can be used with Fiam air and electric nutrunner motors.

## SINGLE - STROKE FASTENING SLIDE

The single stroke fastening slide is characterized by the only movement performed by the motor in order to reach the tightening point and tighten. Considering the compact dimensions and weight, single stroke fastening slides are particularly suitable in situations where the approach movement is made by a robot or a pneumatic manipulator.



Technical drawing of the slide with single-movement



Legend

SL = Tightening slide • 15 = Dimension of rail in mm • D 20 = Ø cylinder in mm • 050 = Tightening stroke in mm • 00 = Approaching stroke in mm • 36 = Ø brackets in mm

| Component | Single-stroke fastening slide | Size (dimension of rail) |    |    |
|-----------|-------------------------------|--------------------------|----|----|
|           |                               | mm                       | mm | mm |
| 15        | SL 15D20 050-00 36            | 15                       | 50 | 20 |
| 15        | SL 15D20 050-00 32            | 15                       | 50 | 20 |
| 15        | SL 15D20 080-00 36            | 15                       | 80 | 20 |
| 15        | SL 15D20 080-00 32            | 15                       | 80 | 20 |
| 15        | SL 15D25 050-00 36            | 15                       | 50 | 25 |
| 15        | SL 15D25 050-00 32            | 15                       | 50 | 25 |
| 15        | SL 15D25 080-00 36            | 15                       | 80 | 25 |
| 15        | SL 15D25 080-00 32            | 15                       | 80 | 25 |
| 15        | SL 20D25 050-00 42,5          | 20                       | 50 | 25 |
| 15        | SL 20D25 080-00 42,5          | 20                       | 80 | 25 |

### TECHNICAL FEATURES

**RUNNING ON BALL RECIRCULATING RUNNERS (WITH FEATHER GUIDE SIZE 15/20 mm)**

**MAGNETIC CYLINDERS (CYLINDER BORE Ø 20 mm, UPON REQUEST Ø 25 mm)**

**PNEUMATIC DECELERATORS**

**LIMIT SWITCH POSITION SENSORS**

**AIR FLOW GOVERNORS**

**WEIGHT: 1,8 ÷ 2,2 KG.**

**MAX. DIAMETER OF THE MOTOR TO USE 42,5 mm**

*THE FASTENING SLIDE IS AVAILABLE ALSO IN THE VERSION EQUIPPED WITH PRECISION SENSOR, WITH A MAX. PRECISION RANGE OF 0,5 mm.*

For order please specify the size of the motor to be installed.

*Drawings of fastening slides in dxf and dwg formats are available.*



**To be ordered separately:**

- nutrunner motor
- bit and bit holder
- screw head

## DUAL - STROKE FASTENING SLIDE

For all those tightening situations where it is **necessary to have the screw head approach the tightening area**, **dualstroke fastening slides are available** which besides from having the motor stroke to effect tightening, also have an additional approaching stroke of the head to the component.

The numerous models available permit to **install motors of different sizes**; they are suitable for **applications where an important axial thrust (e.g. for tightenings with self-drilling screws)** is being required.

In the description of the slide, the first number indicates the stroke of the motor, while the second measures the approach stroke of the head (in mm).

| Component | Dual-stroke fastening slide | Size (dimension of rail) | Tightening stroke approaching | Ø cylinder |
|-----------|-----------------------------|--------------------------|-------------------------------|------------|
|           |                             | mm                       | mm                            | mm         |
| 15        | SL 15D20 050-50 36          | 15                       | 50-50                         | 20         |
| 15        | SL 15D20 050-50 32          | 15                       | 50-50                         | 20         |
| 15        | SL 15D20 050-80 36          | 15                       | 50-80                         | 20         |
| 15        | SL 15D20 050-80 32          | 15                       | 50-80                         | 20         |
| 15        | SL 15D20 080-50 36          | 15                       | 80-50                         | 20         |
| 15        | SL 15D20 080-50 32          | 15                       | 80-50                         | 20         |
| 15        | SL 15D20 080-80 36          | 15                       | 80-80                         | 20         |
| 15        | SL 15D20 080-80 32          | 15                       | 80-80                         | 20         |
| 15        | SL 15D25 050-50 36          | 15                       | 50-50                         | 25         |
| 15        | SL 15D25 050-50 32          | 15                       | 50-50                         | 25         |
| 15        | SL 15D25 050-80 36          | 15                       | 50-80                         | 25         |
| 15        | SL 15D25 050-80 32          | 15                       | 50-80                         | 25         |
| 15        | SL 15D25 080-50 36          | 15                       | 80-50                         | 25         |
| 15        | SL 15D25 080-50 32          | 15                       | 80-50                         | 25         |
| 15        | SL 15D25 080-80 36          | 15                       | 80-80                         | 25         |
| 15        | SL 15D25 080-80 32          | 15                       | 80-80                         | 25         |
| 15        | SL 20D32 050-50 36          | 20                       | 50-50                         | 32         |
| 15        | SL 20D32 050-50 42,5        | 20                       | 50-50                         | 32         |
| 15        | SL 20D32 080-50 36          | 20                       | 80-50                         | 32         |
| 15        | SL 20D32 080-50 42,5        | 20                       | 80-50                         | 32         |
| 15        | SL 20D32 050-80 36          | 20                       | 50-80                         | 32         |
| 15        | SL 20D32 050-80 42,5        | 20                       | 50-80                         | 32         |
| 15        | SL 20D32 080-80 36          | 20                       | 80-80                         | 32         |
| 15        | SL 20D32 080-80 42,5        | 20                       | 80-80                         | 32         |
| 15        | SL 20D40 050-50 36          | 20                       | 50-50                         | 40         |
| 15        | SL 20D40 050-50 42,5        | 20                       | 50-50                         | 40         |
| 15        | SL 20D40 080-50 36          | 20                       | 80-50                         | 40         |
| 15        | SL 20D40 080-50 42,5        | 20                       | 80-50                         | 40         |
| 15        | SL 20D40 050-80 36          | 20                       | 50-80                         | 40         |
| 15        | SL 20D40 050-80 42,5        | 20                       | 50-80                         | 40         |
| 15        | SL 20D40 080-80 36          | 20                       | 80-80                         | 40         |
| 15        | SL 20D40 080-80 42,5        | 20                       | 80-80                         | 40         |



### To be ordered separately:

- nutrunner motor
- bit and bit holder
- screw head

For order please specify the size of the motor to be installed.

### Legend

SL = Tightening slide • 15 = Dimension of rail in mm • D 20 = Ø cylinder in mm • 050 = Tightening stroke in mm • 50 = Approaching stroke in mm • 36 = Ø brackets in mm

## TECHNICAL FEATURES

RUNNING ON BALL RECIRCULATING RUNNERS  
(WITH FEATHER GUIDE SIZE 15/20 MM)

MAGNETIC CYLINDERS (CYLINDER BORE Ø 20 MM / Ø 25 MM / Ø 32 MM / Ø 40 MM)

PNEUMATIC DECELERATORS

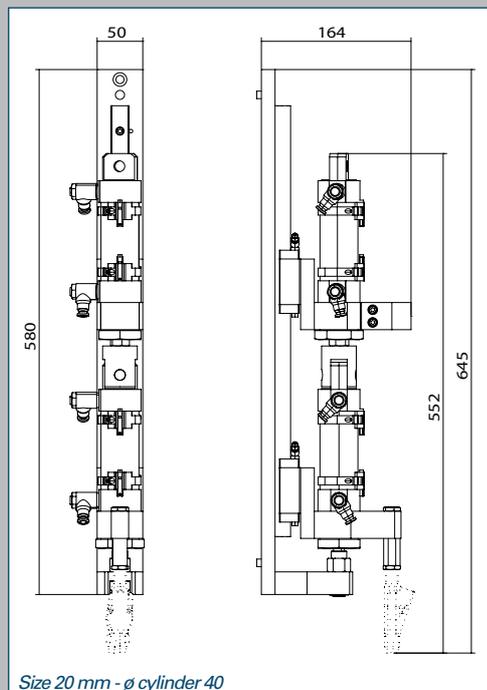
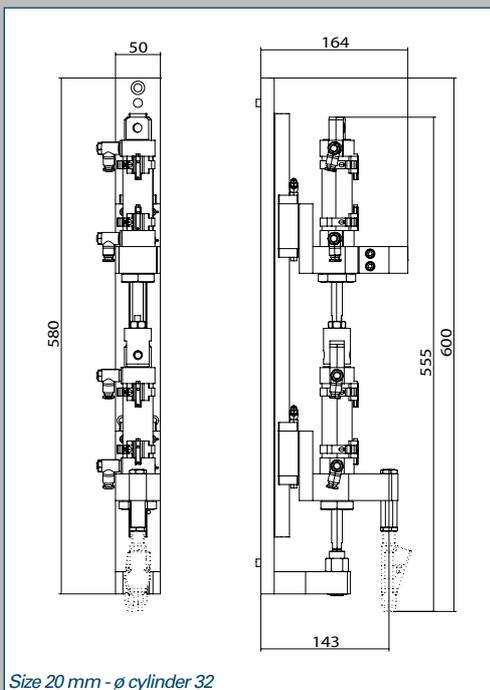
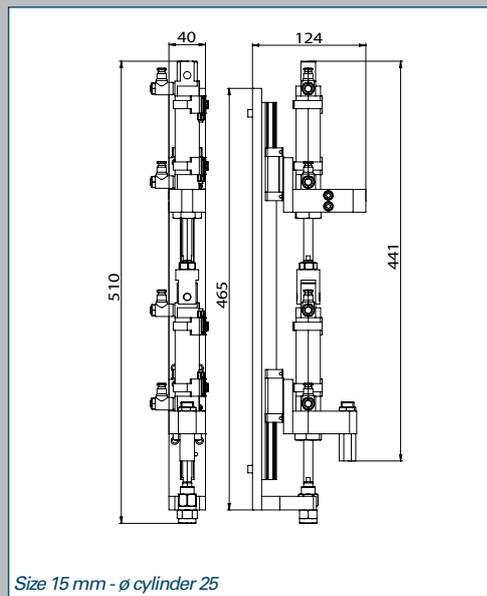
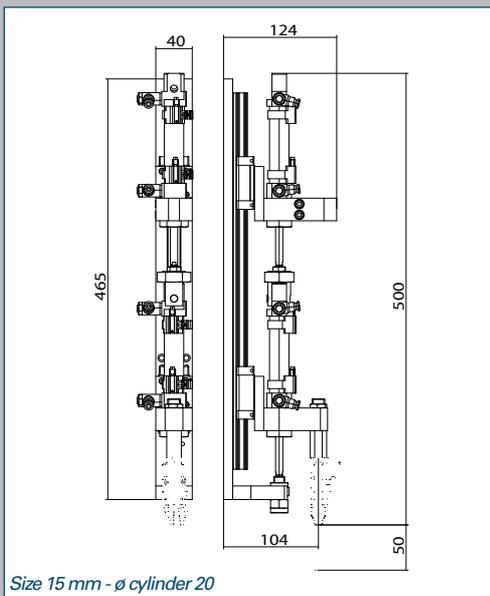
LIMIT SWITCH POSITION SENSORS

AIR FLOW GOVERNORS

WEIGHT OF THE SLIDE: 2,5 ± 2,9 KG

TO BE USED WITH FIAM NUTRUNNER MOTORS AND WITH ALL AIR NUTRUNNER  
MOTORS HAVING DIAM. UP TO 42,5 MM

THE FASTENING SLIDE IS AVAILABLE ALSO IN THE VERSION EQUIPPED WITH  
PRECISION SENSOR, WITH A MAX. PRECISION RANGE OF 0,5 MM.



Technical drawing of the dual-stroke fastening slide

Technical drawings of fastening slides in dxf and dwg formats are available.

# TRIPLE-STROKE FASTENING SLIDE (WITH ANTI-OVERTURNING DEVICE)

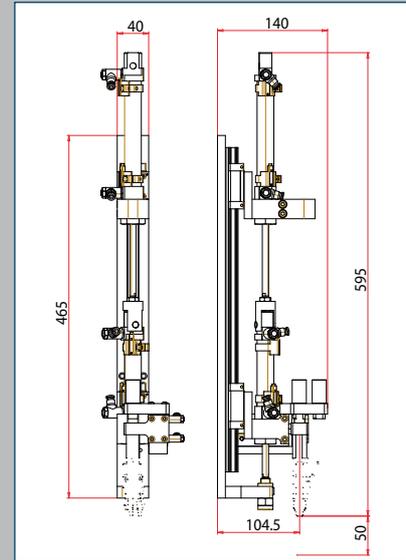
This slide, available both in single or dual stroke versions, is equipped with an **anti-overturning device to handle screws having a ratio total length/head diameter equal more or less to 1.**

This device allows the "movement of the head" avoiding screw incorrect positions during tightening and preventing screws from getting stuck with consequent production stop.

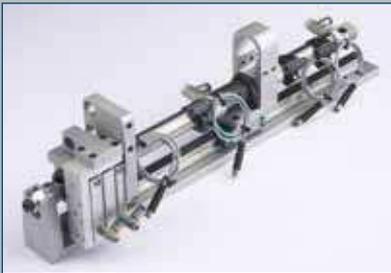
| Component | Slide with anti-overturning device | Size (dimension of rail) | Tightening stroke approaching | Ø cylinder |
|-----------|------------------------------------|--------------------------|-------------------------------|------------|
|           |                                    | mm                       | mm                            | mm         |
| 15        | SL 15 D20 100-50 32 AR             | 15                       | 100 - 50                      | 20         |
| 15        | SL 15 D20 100-50 36 AR             | 15                       | 100 - 50                      | 20         |
| 15        | SL 15 D25 100-50 32 AR             | 15                       | 100 - 50                      | 25         |
| 15        | SL 15 D25 100-50 36 AR             | 15                       | 100 - 50                      | 25         |

## Legend

SL = Tightening slide • 15 = Dimension of rail in mm • D 20 = Ø cylinder in mm • 100 = Tightening stroke in mm • 50 = Approaching stroke in mm • 32 = Ø brackets in mm



Technical drawing of the slide with anti-overturning device (dual movement)



## To be ordered separately:

- nutrunner motor
- bit and bit holder
- head for holding screws

For order it is necessary to specify the size of the motor to install.

## TECHNICAL FEATURES

**RUNNING ON BALL RECIRCULATING RUNNERS  
(WITH FEATHER GUIDE SIZE 15 MM)**

**MAGNETIC CYLINDERS  
(CYLINDER BORE Ø 20 MM STANDARD, UPON REQUEST Ø 25 MM)**

**PNEUMATIC DECELERATORS**

**WEIGHT OF SLIDE: 2,9 KG.**

**LIMIT SWITCH POSITION SENSORS**

**AIR FLOW GOVERNORS**

**TO BE USED WITH FIAM NUTRUNNER MOTORS AND WITH ALL AIR NUTRUNNER MOTORS HAVING DIAM. UP TO 36 MM**

*THE FASTENING SLIDE IS AVAILABLE ALSO IN THE VERSION EQUIPPED WITH PRECISION SENSOR, WITH A MAX. PRECISION RANGE OF 0,5 MM*

*Technical drawings of fastening slides in dxf and dwg formats are available.*

## PNEUMO-ELECTRIC SIGNAL TRANSDUCER

The pneumo-electric signal transducer is a device that **controls the interruption of the pneumatic signal after tightening and converts this into an electrical signal.**

It is positioned on pick-up signal device of the air motor and it can be set basing on the feeding pressure in use. It is equipped with supporting frame that can be installed with screw.

| Component | Model | Description                       |
|-----------|-------|-----------------------------------|
| 16        | TRS   | Pneumo-electric signal transducer |

### TECHNICAL FEATURES

**OPERATING PRESSURE: 0-10 BAR to be set through self learning**



*Pneumo-electric signal transducer*

## SCREW PASSAGE SENSOR

This sensor is a device for controlling the screw passage sensor along the feed hose. Depending on application needs of the customer, besides the basic model, it is available also with 2 special versions:

- **Annular sensor with 100ms delay**

depending on the position of the sensor on the machine in respect to the work cycle

- **Embedded annular screw passage sensor**

ideal with very small screws and with particular material, it guarantees a **more accurate reading** thanks to its shape along the screw passage hose.

Moreover, in presence of systems that feed more screws, this sensor is **totally shielded** and isn't influenced by other sensors positioned nearby. It is supplied with cable (5 mt).

| Component | Model        | Description                      |
|-----------|--------------|----------------------------------|
| 17        | SPV          | Screw passage sensor             |
| 17        | SPV - 100 SM | Screw passage sensor – RIT 100ms |
| 17        | SPV - S      | Embedded screw passage sensor    |



*SPV - Annular sensor*



*SPV-S - Embedded screw passage sensor*

## SCREW FEED HOSES

The rubber screw feed hoses **convey the screw** from the selector to the screw head.

Extremely sturdy and with ideal diameter for a quick screw passage, they are available in 2 versions depending on the flexibility of the application:

- **hard model:** they guarantee extreme speed to the screw passage; they are used when the cables must not bend or adapt to the configuration of the machine.
- **flexible shape memory models:** softer and more versatile, they adapt and remain in the initial configuration.

| Component | Model      | Description                             |
|-----------|------------|---|
| 18        | TMV 4x6    | Screw feed hose 4x6 (ø int. x ø ex.)    |
| 18        | TMV 5x8    | Screw feed hose 5x8 (ø int. x ø ex.)    |
| 18        | TMV 6x8    | Screw feed hose 6x8 (ø int. x ø ex.)    |
| 18        | TMV 6,5x10 | Screw feed hose 6,5x10 (ø int. x ø ex.) |
| 18        | TMV 7x10   | Screw feed hose 7x10 (ø int. x ø ex.)   |
| 18        | TMV 8x10   | Screw feed hose 8x10 (ø int. x ø ex.)   |
| 18        | TMV 9x12   | Screw feed hose 9x12 (ø int. x ø ex.)   |
| 18        | TMV 10x12  | Screw feed hose 10x12 (ø int. x ø ex.)  |
| 18        | TMV 12x16  | Screw feed hose 12x16 (ø int. x ø ex.)  |
| 18        | TMV 14x16  | Screw feed hose 14x16 (ø int. x ø ex.)  |

| Component | Model          | Description  |
|-----------|----------------|--|
| 18        | TMV MF 6x10,5  | Memory shape screw feed hose 6 x 10,5 (ø int. x ø ex.) |
| 18        | TMV MF 7x12,5  | Memory shape screw feed hose 7 x 12,5 (ø int. x ø ex.) |
| 18        | TMV MF 8x14    | Memory shape screw feed hose 8 x 14 (ø int. x ø ex.)   |
| 18        | TMV MF 9x14,3  | Memory shape screw feed hose 9 x 14,3 (ø int. x ø ex.) |
| 18        | TMV MF 10x15,7 | Memory shape screw feed hose 10x15,7 (ø int. x ø ex.)  |
| 18        | TMV MF 11x17   | Memory shape screw feed hose 11 x 17 (ø int. x ø ex.)  |
| 18        | TMV MF 13x19   | Memory shape screw feed hose 13 x 19 (ø int. x ø ex.)  |
| 18        | TMV MF 14x20   | Memory shape screw feed hose 14 x 20 (ø int. x ø ex.)  |
| 18        | TMV MF 16x24   | Memory shape screw feed hose 16 x 24 (ø int. x ø ex.)  |

For the order specify the quantity of meters needed.

### Legend

ø int. x ø ex.= ø int. x ø ex. (in mm)

## BIT HOLDER

The bit holder is the accessory for connecting the bit to the motor. Bit holders are manufactured with high quality materials and treatments that guarantee high resistance to breaking and wear.

| Component | Model    | Description                        |
|-----------|----------|------------------------------------|
| 19        | PL 95,5  | Bit holder total length (mm) 95,5  |
| 19        | PL 113   | Bit holder total length (mm) 113   |
| 19        | PL 118   | Bit holder total length (mm) 118   |
| 19        | PL 125   | Bit holder total length (mm) 125   |
| 19        | PL 130   | Bit holder total length (mm) 130   |
| 19        | PL 146   | Bit holder total length (mm) 146   |
| 19        | PL 155   | Bit holder total length (mm) 155   |
| 19        | PL 165   | Bit holder total length (mm) 165   |
| 19        | PL 170   | Bit holder total length (mm) 170   |
| 19        | PL 195   | Bit holder total length (mm) 195   |
| 19        | PL 196,5 | Bit holder total length (mm) 196,5 |



Bit holder

## BITS

These accessories are manufactured with high quality materials and treatments that guarantee **high resistance to breaking and wear**. The models proposed are ideal for different applications. Depending on customer needs, different special bits are available upon request.

| Component | Model         | Description                     |
|-----------|---------------|---------------------------------|
| 20        | L 1032 PH1    | for PH1 Ø 4,5                   |
| 20        | L 1032 PH2    | for PH2 Ø 4,5                   |
| 20        | L 1032 PZ1    | for PZD1 Ø 4,5                  |
| 20        | L 1032 PZ2    | for PZD2 Ø 4,5                  |
| 20        | L 1032T27     | forTORXT 27                     |
| 20        | L 1032T10     | forTORXT 10                     |
| 20        | L 1032T15     | forTORXT 15                     |
| 20        | L 1032T20     | forTORXT 20                     |
| 20        | L 1032T25     | forTORXT 25                     |
| 20        | L 1032T30     | forTORXT 30                     |
| 20        | L 1032T8 A    | for unscrewable TORXT 8         |
| 20        | L 1032T10 A   | for unscrewable TORXT 10        |
| 20        | L 1032T15 A   | for unscrewable TORXT 15        |
| 20        | L 1032T20 A   | for unscrewable TORXT 20        |
| 20        | L 1032T25 A   | for unscrewable TORXT 25        |
| 20        | L 1032T27 A   | for unscrewable TORXT 27        |
| 20        | L 1032T30 A   | for unscrewable TORXT 30        |
| 20        | L 1032 IN 3,5 | for straight-slotted head Ø 3,5 |
| 20        | L 1032 IN 4,5 | for straight-slotted head Ø 4,5 |
| 20        | L 1032 IN 5   | for straight-slotted head Ø 5   |
| 20        | L 1032 IN 5,5 | for straight-slotted head Ø 5,5 |
| 20        | L 1032 IN 6   | for straight-slotted head Ø 6   |
| 20        | L 1032 IN 6,5 | for straight-slotted head Ø 6,5 |
| 20        | L 1032 IN 7,5 | for straight-slotted head Ø 7,5 |
| 20        | L 1032 IN 8,5 | for straight-slotted head Ø 8,5 |

## SUPPORTING FRAME

The supporting frame for automation components is **made from resistant material** and equipped with base plate for supporting the circular feeder and the screw feed, selection and shooting devices.

### TECHNICAL FEATURES

**MADE FROM EXTRUDED ALUMINIUM**

**DIMENSIONS (MM):  
LENGTH 500 x DEPTH 560 x HEIGHT 700**



Supporting frame

| Component | Model | Description      |
|-----------|-------|------------------|
| 21        | STS   | Supporting frame |

## PROTECTIVE COVER

This accessory is positioned over the screw feeding unit, on the supporting frame. It **protects and soundproofs** the equipment guaranteeing an ergonomic and safe work station.

It is equipped with an upper transparent porthole enabling to check the capacity of the bowl feeder and add new screws when required.

| Component | Model | Description      |
|-----------|-------|------------------|
| 22        | CPP   | Protective cover |

### TECHNICAL FEATURES

**DIMENSIONS (MM):  
LENGTH 500 x DEPTH 560 x HEIGHT 310**



Protective cover

