SICMI

PRESSE OLEODINAMICHE

HYDRAULIC PRESS

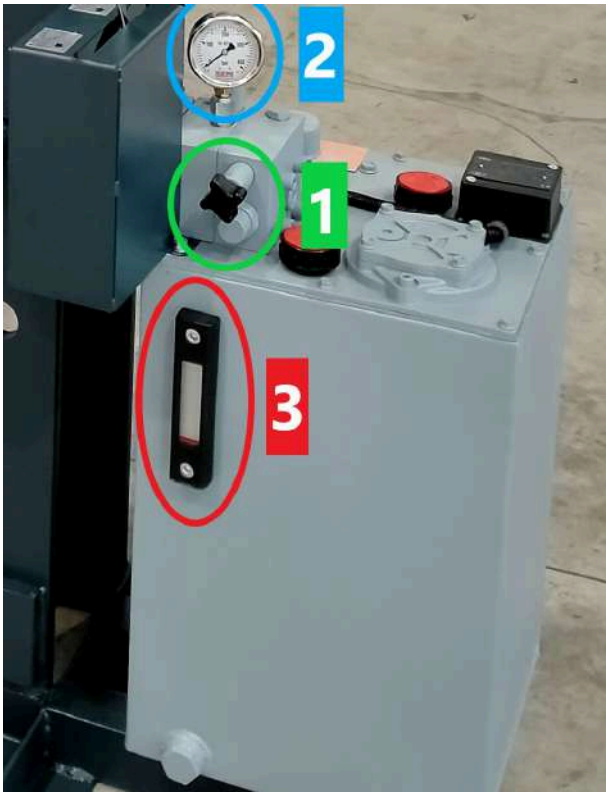
Models PSS & PSS-NC

Introduction

The **hydraulic workshop presses**, models PSS and PSS-NC, are ideal for various processes, including **straightening** sheet metal, for **assembling** and disassembling bearings, bolts, washers or for carrying out **stamping** and material **deformation** work and are perfectly suited for **intensive use** in maintenance and repair workshops or even within industrial plants.

The press is equipped with a **two-speed control unit** which is activated by simultaneously using the lever and the button.

The control unit also features a **knob (1)** for adjusting the maximum working pressure and a **pressure gauge (2)** to display the value of the pressure in use.
There is also an **indicator (3) for the oil level** inside the hydraulic system.



Hydraulic cylinder: fixed or movable

The **main difference** between the PSS model and the PSS-NC version is the hydraulic **cylinder stroke**, which is **500 mm for the PSS** model and **350 mm for the PSS-NC** version.

Both models are available with either a **fixed cylinder** or a **movable cylinder.**

The **movable cylinder** version is **very useful** because it allows the cylinder to be moved laterally and then lowered to the exact point on the sheet metal you want to work on, without having to move the metal piece.

The **movable cylinder** version is available in **two different versions**: with a **handle** (standard) and with a **handwheel** (optional).

The **basic version** allows the piston to be moved manually using a **handle**. The desired position is then locked using a knob located on a metal grid.

As an **optional** alternative, the cylinder can be moved transversally using a **handwheel**. The flange slides along a rack and can be stopped at any point. This variant makes moving the piston **much easier and more precise** than the standard version with handle.

Work platform

The large front opening allows for **easy positioning** of long or wide workpieces.

The work platform of the PSS and PSS-NC hydraulic press is **hollow**, which allows for processing of the material at height.

The **work support plate**, as well as the **pair of V-prisms**, are available as optional equipment.

The **lifting of the work platform** is done by means of a chain connected to the hydraulic cylinder.

You can choose up to **3 different working positions.**

The work platform is locked using **thick steel pins**, which eliminate any unwanted movements.

To prevent them from slipping out, they are anchored using special **cotter pins.**

Oversized welds

The press structure is made of **very thick milled steel**, which is **completely welded** along the entire perimeter of the press with **oversized welds**.

In fact, to ensure that the press can absorb even the highest pressures and maintain its **structure unchanged over the years**, it is necessary that the welds are made in an optimal manner.

This differentiates us from most of our competitors who, to contain production costs, make much thinner welds and only in some points of the frame.

Below on the left is an **example of welding** made by **SICMI** and on the right that of a European manufacturer.

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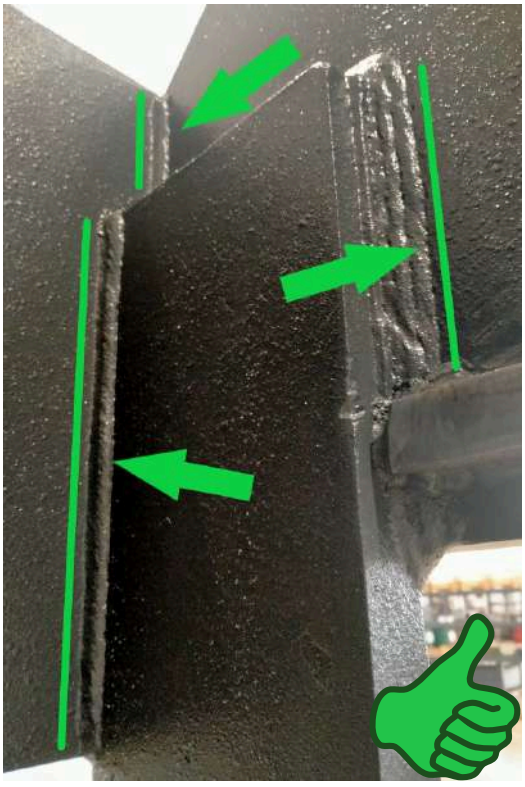
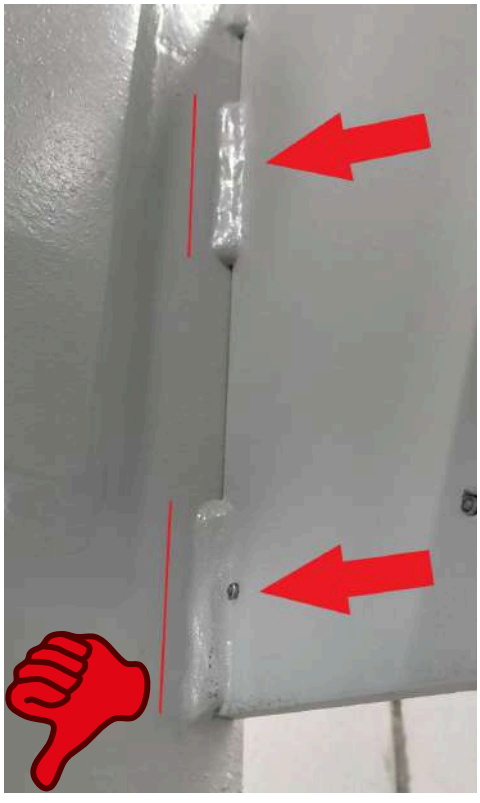


European manufacturer



Semi-automatic mode

The semi-automatic mode involves the installation of **microswitches** that allow the **cylinder stroke to be adjusted** and thus its maximum descent and ascent point to be set.

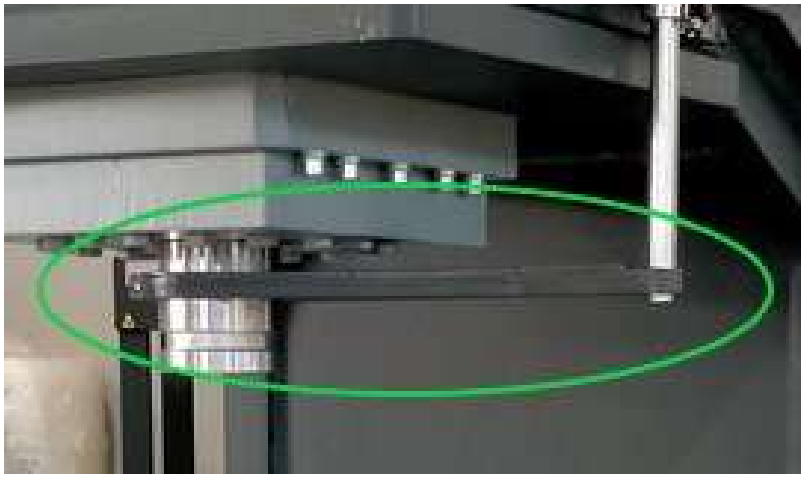
Microswitches are **sensing devices** that monitor and signal the extreme position of the cylinder during its movement.

When the cylinder approaches its final position, the **microswitches detect the stopping point** and send a signal to the press control system.

This signal can be used to **stop the cylinder movement,** or, in the automatic version *(not available for PSS and PSS-NC models)*, they can also be configured to **automatically activate the return** of the cylinder to its original position.

In addition, the semi-automatic mode also includes the installation of the **stem anti-rotation device.**

Stem anti-rotation device



The **cylinder stem anti-rotation device** is a system that prevents twisting of the stem, thus maintaining the cylinder **descent perfectly linear.**

This device is very useful especially in the **molding phases** to keep any molds fixed to the cylinder in line.

This system is a **sort of metal jaw** equipped with two holes: the stem is inserted into the larger hole, while the guide rod slides into the smaller hole.

The stem anti-rotation device is supplied included with the kit for the semi-automatic mode or can be ordered separately.

Work support plate

The **metal work support plate** is used to conveniently position the piece to be machined.

It is positioned on the hydraulic press bed and is equipped with **mechanical fixing blocks.**

It is available in various sizes depending on the tonnage and size of the workshop press on which it is to be installed.

This support plate is characterized by its **high thickness**, which guarantees **excellent resistance** to the strong pressure exerted by the cylinder during the pressing phases and therefore prevents the plate itself from deforming.

Pair of V-Prisms

The **pair of V-prisms** has the function of **supporting the metal piece** to be machined and is fixed to the work surface of the hydraulic press.

They are usually used for **straightening** and **bending** of tubes, rods or metal profiles inside mechanical workshops.

The V-prisms are made of painted raw iron and are milled at the support point.

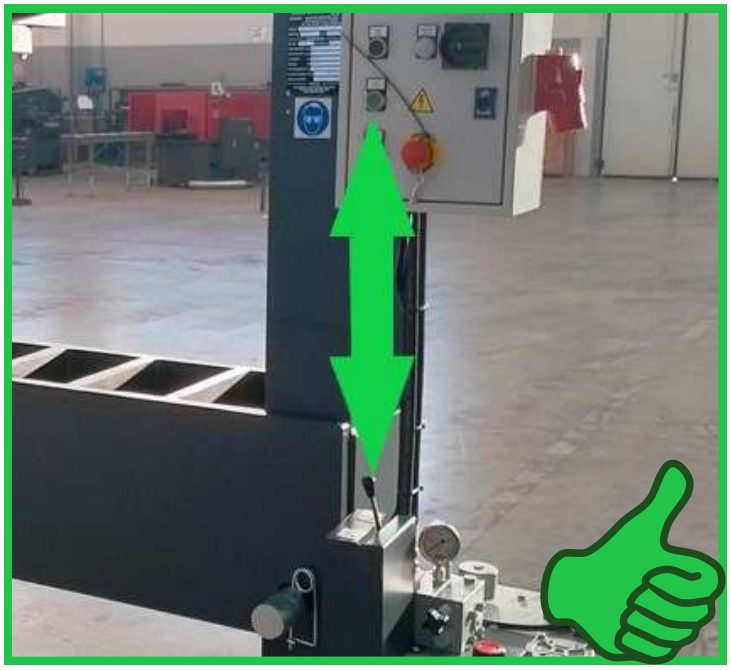
Operation

The press works by using the **lever and the button** at the same time, as required by the current safety regulations for all presses, whose cylinder **descent speed exceeds 10 mm/sec.**

The regulation requires that **presses under 10 mm/sec are slow enough** and the machine can therefore be operated with a simple lever or with the use of the pedals, thus having one or both hands free to move the piece to be worked.

For all presses with a **speed above 10 mm/sec**, European regulations require the operator to have **both hands busy** during the pressing phases with the aim of preventing the user from inadvertently injuring himself during the descent of the cylinder.

Furthermore, the regulation requires that the lever and the button be placed at a **certain distance and at different heights.**



The purpose is to **prevent** them from being operated by **one hand** only (or even for example by pressing with an arm or a part of the body) while the other hand is moving the piece to be worked with the risk of injury.

Lever protection

Another safety measure is the **metal casing** that surrounds the base of the operating lever.

This measure is used to ensure that the **lever** can only be **moved** using the **fingertips** and therefore cannot be activated by an involuntary impact or fall of the operator.

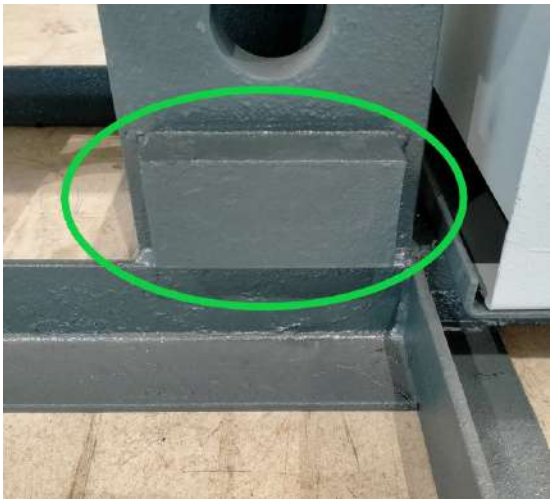
Furthermore, as an additional form of safety, the operation of **SICMI** presses requires that the lever, when pushed forward, **raises the cylinder**, while if it is pushed towards the operator, the **cylinder descends.**

This means that even in the **event of an accidental fall** of the operator and an involuntary impact against the lever, the latter would be pushed forward and would raise the cylinder and not the other way around.

In fact, it is clear that **only the descent** of the cylinder is **dangerous**, while its ascent never involves any risk for the user.

Metal blocks

As an additional safety system, **metal blocks** are provided on all workshop presses that have a movable floor.



These metal blocks are positioned at the lower end of the press and are **completely welded** to the machine structure.

Their function is to **protect the operator's feet** from the accidental fall of the work table.

These mechanical blocks **prevent** the work table from touching the lower part of the and thus leave a **safety space for the user's feet**, preventing them from being crushed.

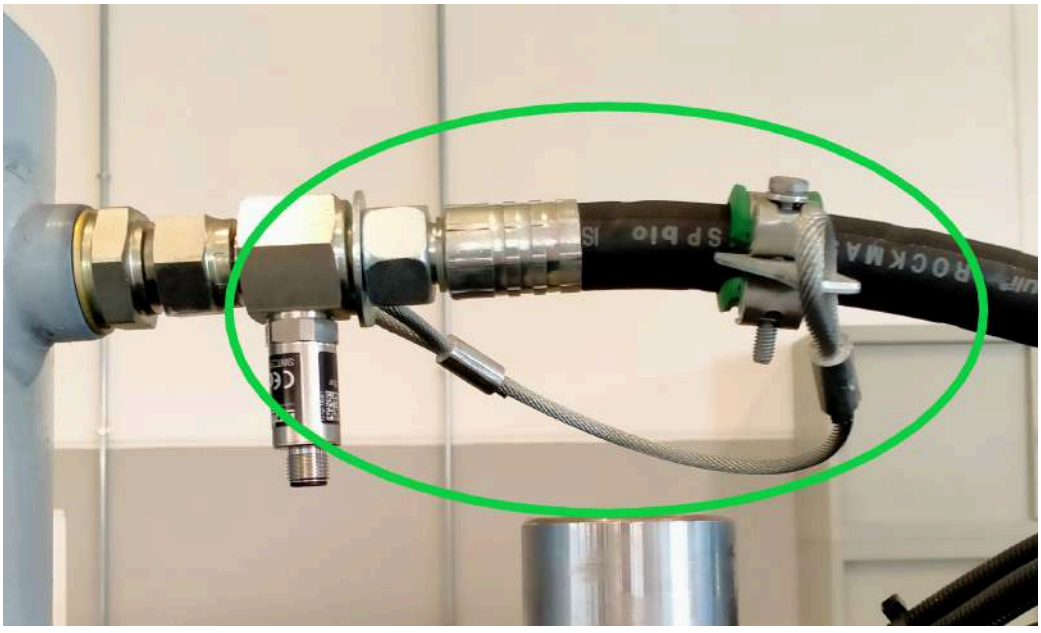
Stopflex anchoring

All presses produced by **SICMI** include safety systems for **anchoring hydraulic hoses.**

In fact, the **force** released by a **pressurized hose**, in the event of the fitting slipping off, would be **very dangerous** for things or people in the vicinity.

This is why the hydraulic hoses of all presses produced by **SICMI** are fixed using the **Stopflex retention system**, which was designed to stop the stroke of the slipped hose and prevent the force released inside it from triggering a fearsome **"whip effect"** and at the same time **flooding** the work environment with **hydraulic oil**.

Thanks to this system, in fact, the **hose is anchored** to the system using a rope, thus ensuring full protection of the operators, the safeguard of the press and the workshop.



Anchoring hydraulic hoses

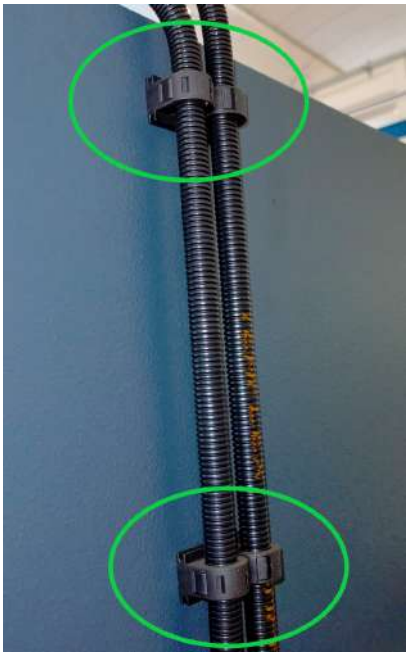
In addition to the Stopflex safety retention system, the hydraulic hoses are firmly **fixed** to the press frame by means of **special collars** that prevent any movement of the hydraulic hose.

These collars have the base **welded** to the frame, while the upper part is **screwed.**

Anchoring electrical cables

The pipes for the passage of electrical cables are **anchored** to the frame of the press by means of **special collars**.

Unlike many competitors who use simple plastic ties that are destined to dry out and break in a short time, these collars are made of **highly resistant material** and are **screwed** to the frame of the press.



Maximum pressure valve

As an additional measure to ensure the **safety of the operator** and to **safeguard the machine**, a maximum pressure valve is installed inside the hydraulic power unit on all hydraulic presses produced by SICMI.

The maximum pressure valve has the function of **regulating the maximum pressure** in the hydraulic circuit.

It is used to **protect the pump** and other components of the system from excessive pressure and therefore to maintain a constant level inside the hydraulic circuit.

It is a normally closed valve capable of opening when a predetermined pressure is reached and of **discharging the flow rate** necessary to keep the circuit pressurized.

In fact, in the event of a malfunction of the hydraulic circuit, this safety valve prevents an excessive quantity of oil from reaching the cylinder, thus **preventing the risk of overpressure.**

Electrical system

The press works with a **three-phase** electrical system with a **380V** power supply.

The electrical panel features an **emergency button**, which immediately stops the machine from working, as well as buttons to operate the press.

As an additional safety measure, there is a **transformer** inside the electrical panel that reduces the current from **380V to 24V**, that is, to a **voltage** that is **not dangerous** for human health.

In fact, in the **event of a malfunction** in the system, the current could propagate to the electrical panel, with the risk that the operator could suffer an **electric shock** when pressing one of the buttons on it.

LOTO Blocking

The electrical panel cabinet is equipped with the **Logout - Tagout (LOTO) locking system** which allows the press ignition control to be locked with a padlock and therefore the machine to be made **safe** during **maintenance phases.**

Electrical panel closure

The electrical panel cabinet is also equipped with a **key locking system** to keep the electrical components safe and **prevent unauthorized personnel** from gaining access.

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Only the best is enough

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