

DESCRIPTION OF THE MACHINE AND TECHNICAL SPECIFICATIONS	I
--	---

BRUSH FOR RUBBER MANUFACTURED ARTICLES

The BRUSH device is an electro-pneumatic unit to be used from time to time with vertical and horizontal compression and injection presses for removing feedheads or small pressed matter for rubber manufactured articles. The BRUSH is composed of a basic, extremely solid structure, to which different tools can be easily fitted - with minimum overall dimensions -, which are normally used for extracting feedheads or for automatizing inserts loading operations and for extracting small pressed matter for rubber manufactured articles.

HANDLER USE ADVANTAGES:

- **REDUCED THE TIME OF ITEMS REMOVE**, because it's made at the same time for all the items and not one by one as in a manual removing cycle.
- **REDUCED MANUAL LABOUR**: cycles are completely automated and therefore one operator can control several machines.
- **REDUCED OPEN MOULD TIME**, then smaller moulds cooling and smaller vulcanization time.
- **ELIMINATION OF UNDUE CYCLE STOPS** and their pertinent problems due to moulds cooling down, such as scraps due to insufficient heating, moulds cleaning and eventual removing of them, purges for cleaning the nozzle from prevulcanized material.
- **REDUCED MACHINE DOWN TIME**: it is no longer necessary to wait for the operator to remove moulded items.
- **IMPROVED QUALITY AND CONSISTENCY OF MOULDED ITEMS**: continuous extractor cycles eliminate hazardous open machine down time due to operator absence and/or extraction speed, thus preventing the mould from cooling off and/or the compound from curing in the injection pot and extruder, which may change the physicalchemical properties of the moulded item.
- **THEY PROVIDE A RAPID RETURN ON INVESTMENT.**
- **IMPROVED PLANT OPERATING TIME**: simplifying the machine work load programming, it's really easier to programm, because of costant cycle times.
- **MORE FLEXIBILITY**: the handlers can be simply coupled to similar machines, compatible to their pertinent electric and pneumatic connections taps: they can be used on several similar moulds with small differences in tap positions.
- **REDUCED MANUAL LABOUR DEDICATED TO ITEMS TRIMMING**: the handlers use allows to remove and part automatically the moulded items burr straight through during the removing cycle.

DESCRIPTION OF THE MACHINE AND TECHNICAL SPECIFICATIONS	I
--	---

1 General Description of the machine

The brush device is used to draw out the feedheads or the printed rubber manufactured articles that are pressed with mainly horizontal or vertical compatible presses. This device is equipped with a PLC-controlled electrical and/or pneumatic handling. It is composed of a group for the horizontal movement of the brush(es) a group for the vertical movement of the brushes and one or more groups for the brush(es) rotation. The group for the horizontal and vertical movement runs on a bar with a linear bearing slide.

The device allows the set up a conveyor belt to evacuate the feedheads, the burr o the pressed pieces, as an alternative to drawing them through the container.

The device is composed of:

- A linear unit for the horizontal movement
- A linear unit for the vertical movement of horizontal axis and brushes
- A unit for the brushes rotation to draw the feedheads or the manufactured articles
- A device provided with a photocell to check if the extraction of the feedheads or pressed matter has been carried out
- An electrical control panel, controlled through PLC, selectors and buttons
- A pneumatic system

2 Description of the working principle

The device approaches with its front side open one of the free sides of the press - normally, the upper part for horizontal presses and the back or side part for vertical presses.

After the vulcanization (reticulation) time has elapsed, the press opens vertically and horizontally. At the end of the opening run with its protections closed the brush goes in between the press tables, approaches the mould and when it comes close to the extraction and cleaning area it starts rotating until the end of the brushing run. During the brushing run the feedheads, the burr or the printed manufactured articles are stripped from the mould and made to fall into a special container located in the unloading area or onto the conveyor belt. During their fall a sensor checks if they have gone through and consequently if they have been extracted.

At the end of the brushing run, while the brushes go on rotating the device inverts the movement and moves outside the press tables side play to allow the press closing. Then it waits for a new opening to carry out a new extraction and cleaning cycle.

After a certain number of previously programmed and adjustable cycles, acoustic and luminous indicators signal the operator that he/she can carry on with the feedheads, the burr or the pressing evacuation. This operation can be carried out only when the press is open, the manipulator has come to a standstill and when the message on the display indicates the change of container and the light blue lamp located in the reset button is on.