

### Flexographic printing machine

#### DESCRIPTION

Maflex Monoflexo is one color flexo printing machine, compact and portable, which can be installed in line with extruder or before the bag maker, bag machine and wrapping machine and which can be used when it is required a flexo print on flexible material.

Two important basic criteria have been followed when the machine was projected: to increase as much as possible the printing quality and the characteristics of the machine considering the limitations dictated by the machine application and to follow the mechanical modular concept which allows to increase the modular increase of the functional characteristics.



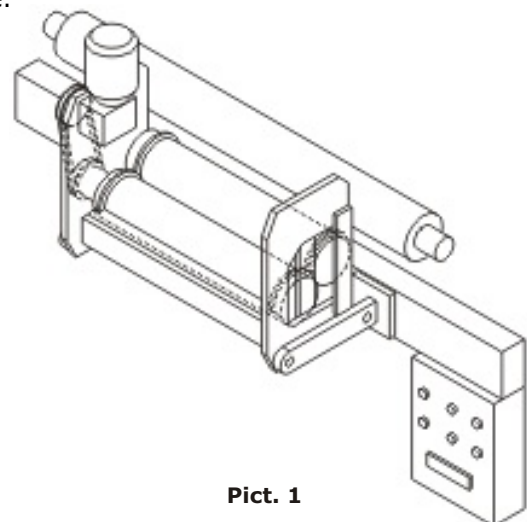
The modular structure allows to pass from the basic configuration, which places the Monoflexo at the top of the "mini" flexo presses, to a "Plus" configuration, capable to be at the same level of a standard flexo machine and even with better performances.

The customer who purchase the basic Monoflexo knows that it is possible to improve the quality and operating characteristics in every moment, because every part of the machine can be soon afterwards improved. This versatility allows to reduce the cost to obtain advanced performances and to easy follow the market evolution, allowing the user to hit the market occasions.



The basic Monoflexo is shown in Picture 1. Two strong side panels are connected through spacers which assure the necessary structural resistance.

The machine is fixed by means of joint hinges to an aluminum cross-bar capable to assure the requested stiffness to support the event of an electric panel to be installed. This is a solution which can be applied when it is possible to fix the above described cross-bar to an existing mechanical structure.



Pict. 1

### Flexographic printing machine

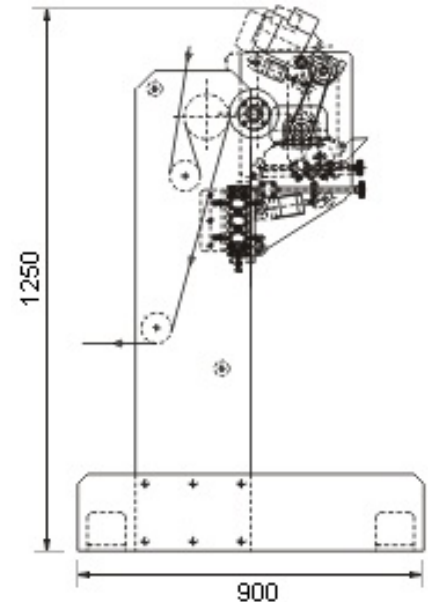
If it is not possible the machine can be delivered with its own structure equipped with a counterimpression roll and web passage rolls. See Picture 2.

The machine can be realized with the following print width: **100 mm**, **200 mm**, **300 mm** and **400 mm**.

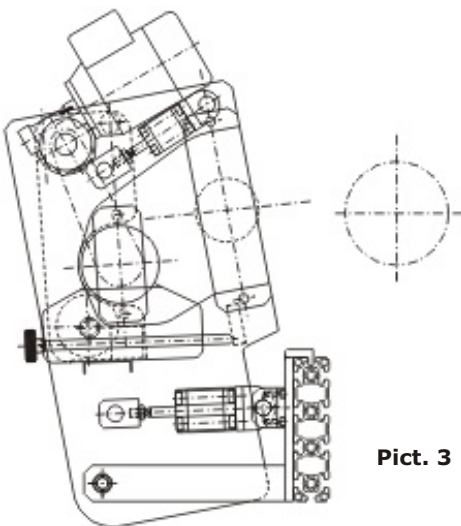
The dimensions for a machine 400 mm print width: width 600 mm, depth in working position 300 mm and in ink mixing position 400 mm, height 500 mm. The dimensions of the other printing width can be provided upon customer request.

The Monoflexo printing unit is made by: a plate cylinder, an anilox roll and a rubber roll positioned inside the ink mixing tray. The main structure is hinged to the cross-bar and can separate from the counterimpression roll by means of a pneumatic cylinder. The distance between the rolls allows the plate change and the web passage at the beginning of each reel. The anilox roll and the ink tray are positioned in a secondary structure which is hinged to the main frame.

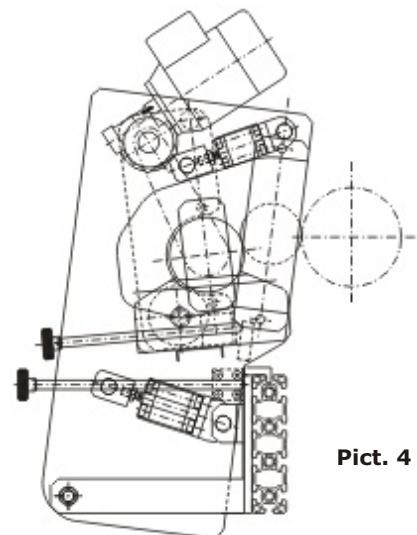
Also this secondary structure movement is performed by a pneumatic cylinder. This movement causes the detaching of the anilox roll from the plate cylinder allowing the ink mixing. (see Picture 3 and 4)



Pict. 2



Pict. 3



Pict. 4

To mix the ink the anilox roll is connected to a small motor reducer which start to work automatically when the machine is in the above described position.

The rolls spinning is performed by the material itself. The plate cylinder is equipped with two small rubber elements at its sides. Such elements are "forced" against the material and this generates the roll movement. The plate cylinder movement allow the anilox roll rotation. Such "forcing" is obtained through the printing pressure regulations. The printing pressure is regulated by two screws assembled at the opposite of the first pneumatic cylinder.

The ink pressures are regulated with a similar process. The ink passage between the rubber roll and the anilox roll is obtained by the registration of the complete tray against the anilox roll.

The printing repeat is fixed, that means that to change the printing dimension is necessary to change the printing cylinder.

#### MAIN FEATURES OF THE BASIC MACHINE

- A) Fixed printing repeat
- B) Movement driven by the material
- C) Motor reducer for ink mixing
- D) Chromed anilox roll + rubber roll
- E) Pneumatic cylinder for throw on-and-off to allow the web passage at the beginning of the reel
- F) Pneumatic cylinder to perform the ink mixing
- G) Counterimpression roll furnished by the customer
- H) Main frame structure furnished by the customer

The functional characteristics of this machine can be changed using one or more of the following ancillaries:

**A1)** Variable printing repeat using the sleeve system. The printing repeat range is from 250 mm up to 610 mm.

**A2)** Variable printing repeat from millimeter to millimeter (within established dimensions) performed by the plate cylinder motorization. The motor is a brushless type electronically controlled by the web speed. To obtain this result it is necessary to know the web passage speed.

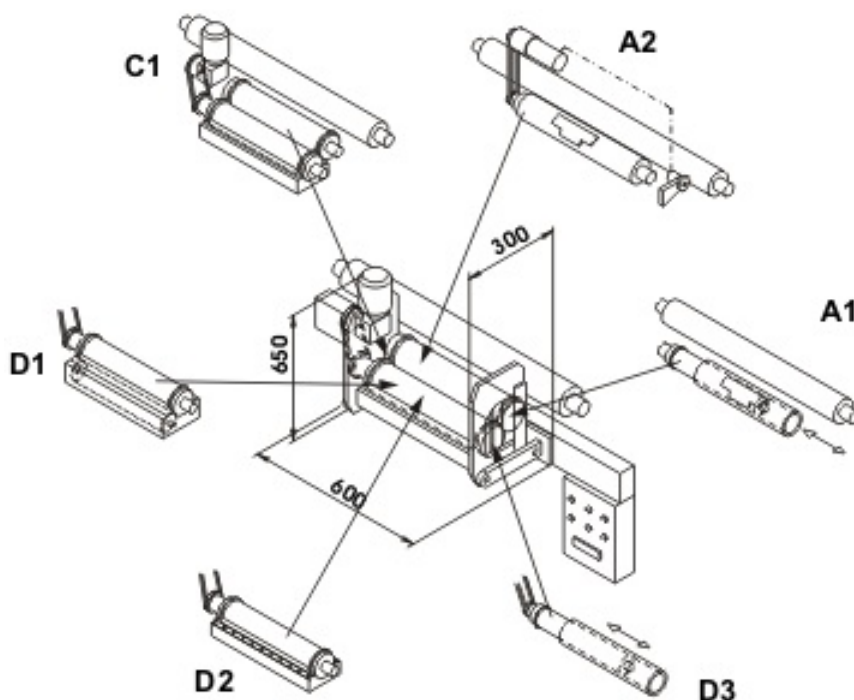
**C1)** The ink mixing motor reducer can give the roll the rotary movement (through a particular mechanism and only when the machine is working) which helps the rotation of the anilox roll and does not give the movement to the web itself.

**D1)** Chromed anilox roll with plastic doctor blades + rubber roll.

**D2)** Ceramic anilox roll with stainless steel doctor blades, without the rubber roll for high performance speeds and plain print.

**D3)** Possibility to use the sleeves system to change the anilox roll characteristics with the requested number of lines and easy job change.

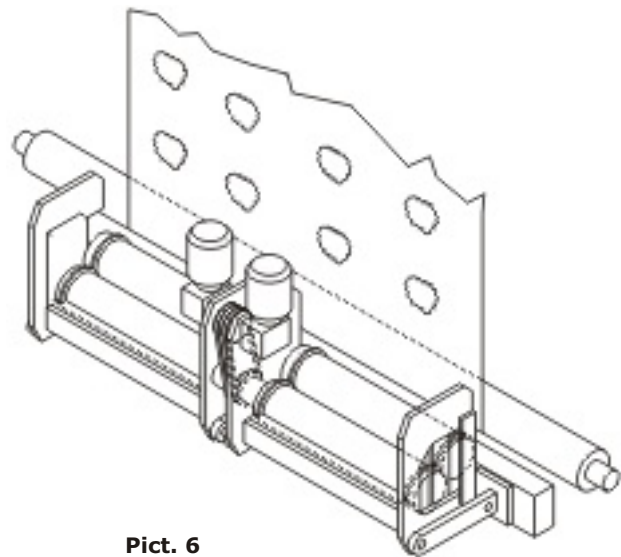
**Picture 5** shows the possibility to increase the machine structure and performance starting from the basic version of the Monoflexo. The performance of each parts does not depend from the others.



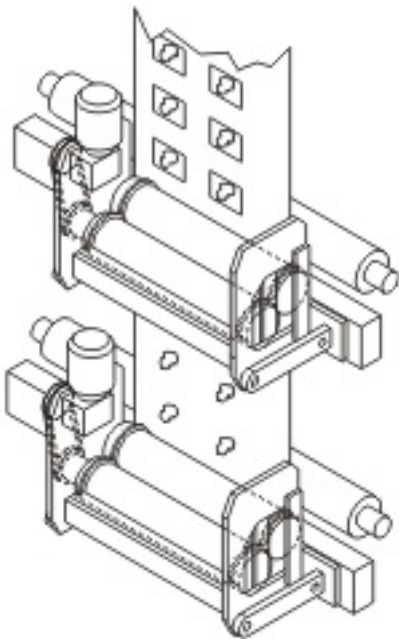
Pict. 5

### Flexographic printing machine

It is possible to connect two machine mechanically, the basic version driven only by the web and the other driven by motor. In this way we can print within the limits of the printing width two, three or four rows. See **Picture 6**.



Pict. 6



Pict. 7

We also want to point out that it is possible to use two machines subsequently to print more than one color. If we take two machine as per profile A2 and we put them one after the other (see **Picture 7**) we can obtain the printing synchronization depending from the printing repeat of the plates used. This process is very innovative if compared with the mini machines but shows how big are the possibilities of the Monoflexo concept.