



K080

Combi-Machine

# K080



## COMBI-MACHINE K080

The K080 is a compact decoration machine for the production of plastic collapsible tubes or plastic sleeves. It is particularly suitable for the production of smaller, favorably priced ordering quantities.

The following production steps, that otherwise would require a far greater installation, can now be carried out on this machine alone:

- Transfer to the working stations.
- Printing with up to 6 or 7 UV links, with our printing units DW.
- Polymerization of the inks in an integrated UV curing system.

- Varnishing with UV varnishes with the built-in-coating unit LW60.
- Transfer to the following machines.

In combination with a UV curing oven for the varnish and a Hinterkopf capping machine the K080 itself is a high-performance production line for the decoration of plastic collapsible tubes of superior quality.

An optional capping unit allows tube caps to be fitted in the K080 directly and the tubes to be packed immediately afterwards.



#### CHARACTERISTIC FEATURES OF THE K080:

- Minimum required floor space due to the compact construction.
- Rapid change-over due to a small number of easily exchangeable size parts.
- Convertible from tube transfer system to sleeve transfer system.
- Variable pretreatment of the tubes' surface with Corona or gas.
- Positioning of the print by means of marking strips or according to thread position.
- 6- or 7-colour printing unit.
- Touch-screen for central process data input (optional).



# K080



## FUNCTIONING

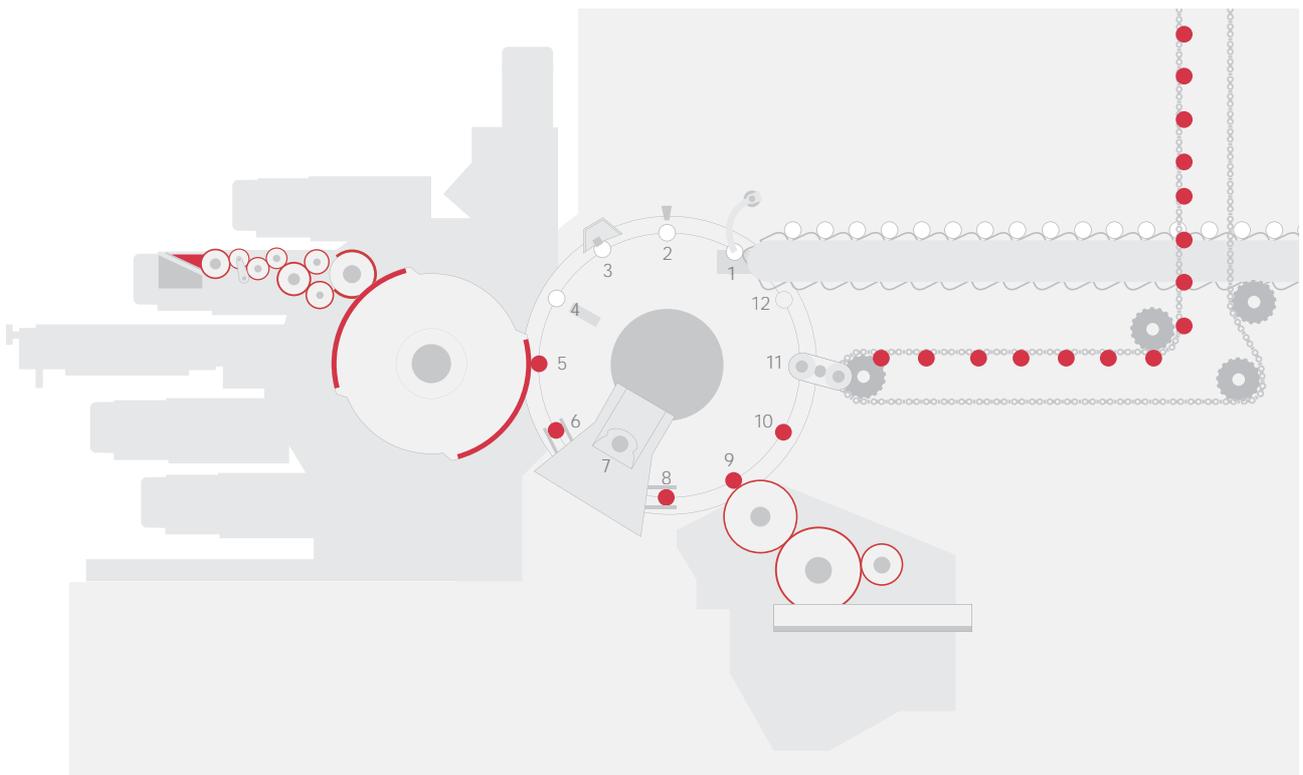
The tubes/sleeves are supplied to the machine by a straight feeding conveyor or by means of a pin chain.

Transfer of the tubes/sleeves from the feeding conveyor onto the plate mandrels is made by a vacuum prism and a single-step loading rod.

Low pressure is used to draw the tubes/sleeves onto the mandrels.

The big mandrel plate, with roller indexing mechanism, is fitted with quick-exchange mandrels.

The K080 is driven by independent three-phase servomotors. This allows an easy realization of different operating conditions during the set-up and production modes. Machine speeds for the pretreatment, the printing, coating and drying are pre-selected and displayed digitally.



Suctions cups, situated at a double rotating head, transfer the tubes from the mandrels onto the chain pins.

An electronic cam switching device allows the adjustment of the chronological course of functions.

A portable control panel with touch-screen at the front side of the machine ensures an optimum of operating convenience. The K080 can be set up alternatively for the production of collapsible tubes or of tubes and sleeves.

The machine complies with the safety regulations effective in Germany and with CE rules.

With the machine's encapsulation acceptable values as to emission and noise protection are achieved. Furthermore, this closed construction provides a dust-free production area. Due to its transparency and the good accessibility this encapsulation hardly restricts the monitoring and operation of the machine.

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## COMPONENTS

### // Deionization [2]

For the neutralization of the electrostatically charged tube surface.

### // Surface pretreatment [3]

A pretreatment with gas or a Corona is made before the tubes are printed and lacquered. It improves the adhesion of inks and lacquers on plastic surfaces. It is indispensable, as a major part of the used plastics are covalent materials that show no or only a very low trend to accept an adhesion of lacquers or inks.

Therefore, where such materials are used, an activation of the respective surfaces is required, thus achieving a sufficient wettability and hence a good adhesion on the surface.

### // Radial positioning [4]

Positioning of the print by means of marking strips or according to thread position.

### // Printing unit DW [5]

The printing unit is driven by its own adjustable three-phase servomotor.

Axial and radial adjustment of the plate cylinders is effected from the front side of the printing unit. This adjustment is displayed visually and can be made during the machine run.

The printing pressure at the mandrel tip is adjusted using a worm gearbox.

When the penetration depth of the plate into the blanket is adjusted, the application rollers automatically move towards the former position.

The swivel-mounted ink units are equipped with their own drives to allow the inking and cleaning of the ink rollers. They can be switched on individually.

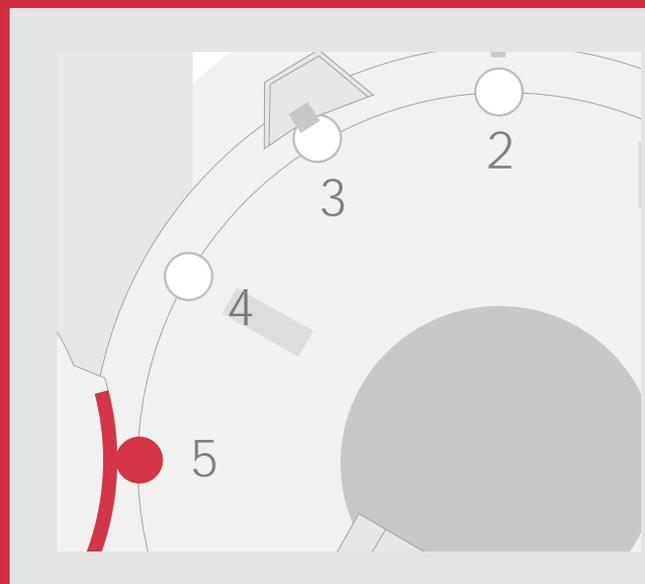
The ink quantity is controlled by PLC with touchscreen.

The "no tube no print" control comes into action by hydraulically moving away the printing unit. At the same time the ink flow is interrupted thus avoiding excessive ink built-up on the printing plate.



A mobile control unit facilitates the set-up.

For more detailed information about the Hinterkopf printing units, and in particular on the ink control, please refer to our separate brochure "Printing techniques".



**// Dip coater unit LW 72 [9]**

The LW 72 is a three-roller dip coater unit.

The exact adjustment to accommodate the respective tube diameter is infinitely variable by means of a position indication.

The coating roller can be shifted axially on its shaft. With a fine adjustment it can be set precisely relative to the tube's back coat margin.

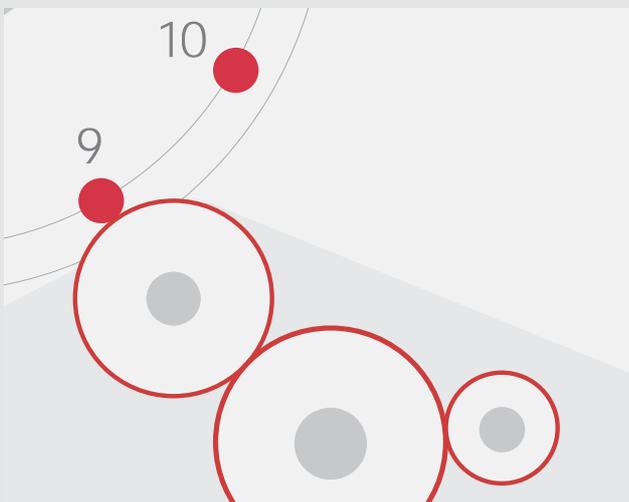
The coater roller speed is infinitely adjustable and is digitally displayed on the control panel.

A doctor roller allows variations of the coat layer thickness.

The lacquer supply is in a tray that is located beneath the coating rollers. Varnish supply alternatively can occur between the two steel rollers.

The coater unit can be swung to the front to facilitate an exchange of the rollers as well as cleaning and servicing.

A protection cover with extraction device prevents an emission of solvent vapours during the coating operations.







### // Optional capping unit [2]

An optional feature for the combi-machine K080 is a capping unit. This function extension makes the whole production unit even more concentrated, and it is a cost-advantageous alternative for the conventional conception of individual machines.

### // Functioning:

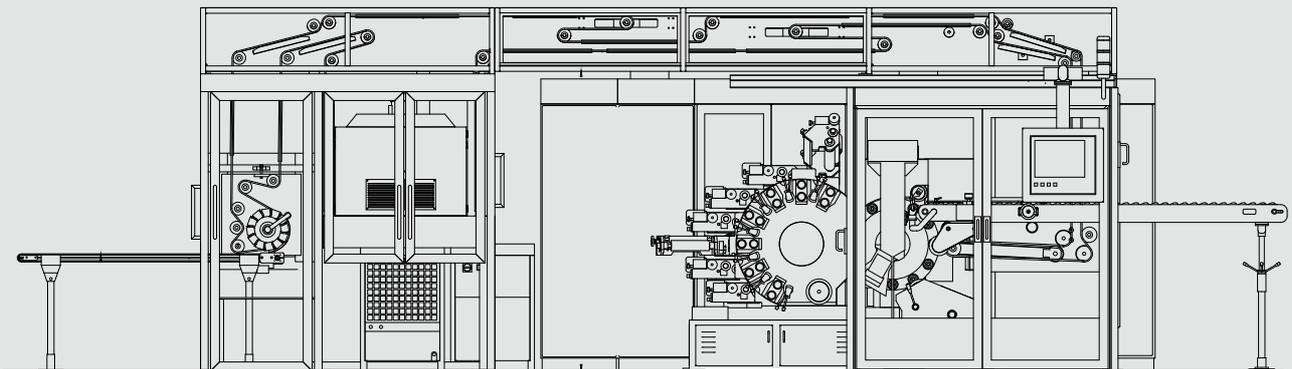
As in the conventional capping machine, the tube caps are fed into the capping station from the vibrating feeder bowl, which is built up above the machine, through a feeding channel. Caps are screwed on at one station and in one single operation.

Gaps in the tube flow are scanned and the capping operation is interrupted if necessary.

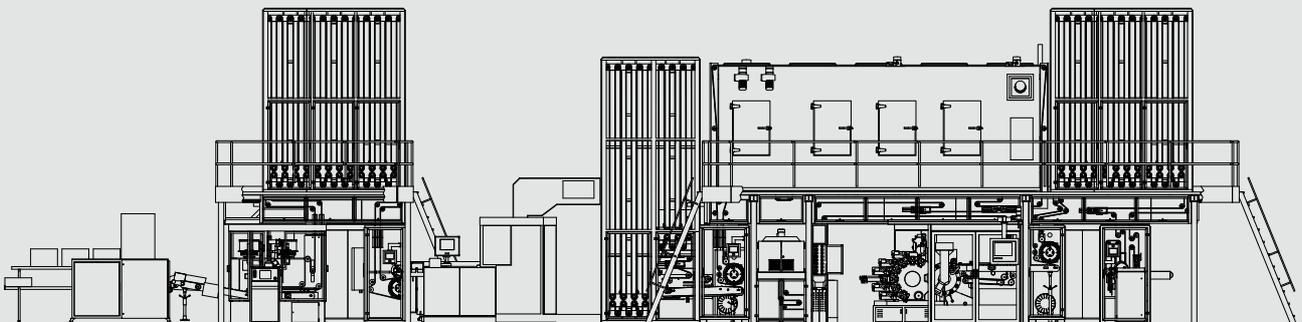
# K080

## MODELS

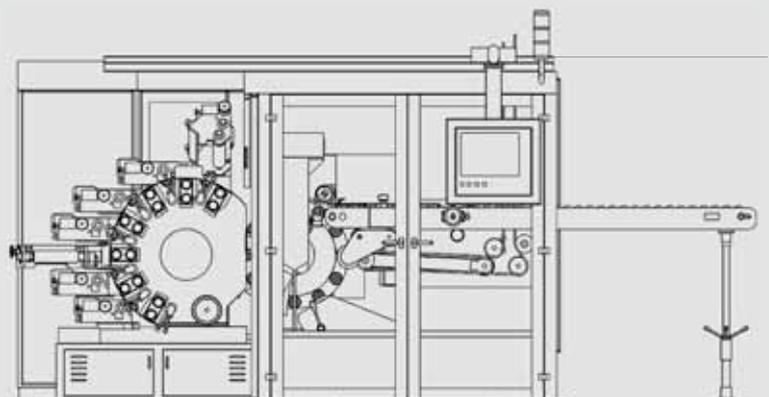
K080-machine with UV drying of inks, for thermal drying of the varnish. With capping machine A120 and accumulator S205/2.



K080 with UV drying for inks and varnishes. Capping machine A120 and accumulator S240.



K080 basic machine with UV drier for inks and varnish as well as for capping in the machine.



## TECHNICAL DATA

### // Technical Data, Characteristics, Operative range K080

- Material:  
Plastic collapsible tubes or plastic sleeves
- Diameter ranges:  
13,5 – 25 mm | 19,0 – 50 mm | 30,0 – 60 mm
- Tube wall length:  
60 – 220 mm
- Mechanical speed:  
85 pieces/min.
- Production speed:  
80 pieces/min.
- Weight:  
approx.: 8000 kg

### // Technical Data of Coating units LW64, LW66, LW70, LW72

- Axial fine adjustment of coating roller:  
30 mm
- Max. width of dipping and doctor rollers:  
290 mm
- Diameter of coating roller:  
200/180 mm
- Width of coating roller:  
220 mm
- Cover thickness of coating roller:  
25 mm

	Technical Data of Printer Unit DW12/4 to 6	Technical Data of Printer Unit DW14/4 to 6	Technical Data of Printer Unit DW16/6 to 7
<b>Number of ink units:</b>	can be extended from 4 to 6	can be extended from 4 to 6	can be extended from 6 to 7
<b>Printing length (wall):</b>	max. 260 mm	max. 160 mm	max. 260 mm
<b>Number of segments:</b>	2	2	3
<b>Plate cylinder arc length:</b>	212 mm	212 mm/160 mm	212 mm
<b>Plate length:</b>	270 mm	270 mm/160 mm	212 mm
<b>Plate thickness:</b>	0,73 mm	0,73 mm	0,73 mm
<b>Plate mounting:</b>	clamped pin suspension magnetic clamping	clamped pin suspension magnetic clamping	clamped pin suspension magnetic clamping
<b>Blanket mounting:</b>	clamped glued	clamped glued	clamped glued
<b>Blanket thickness:</b>	1,9 mm	1,9 mm	1,9 mm
<b>Rubber roller cover:</b>	for UV-inks	for UV-inks	for UV-inks
<b>Extra rollers:</b>	Inking unit 1 to 4: 2 rollers, each inking unit 5 and 6: 1 roller, each	Inking unit 1 to 4: 2 rollers, each inking unit 5 and 6: 1 roller, each	Farbwerk 1 bis 5: 2 rollers, each inking unit 6 and 7: 1 roller, each
<b>Rider Rolls:</b>	2 in inking unit 2 and 3,each	2 in inking unit 2 and 3,each	2 in inking unit 2 and 3,each
<b>Printing unit pull back if tube is missing:</b>	3 mm	3 mm	3 mm
<b>Hydraulic printer unit pull back for cleaning:</b>	3 mm	3 mm	3 mm
<b>Axial printer unit adjustment:</b>	50 mm	50 mm	50 mm



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All data are subject to change!