GRAVURE PRINTING

Marking of the wires usually serves the purpose of uniquely identifying the individual core of multicore cables, and generally takes the form of printed numbers (wire numbering) or any kind of text, logo, etc.
Laser engraved printing wheels are employed for ink printing using the gravure method. The rollers are supplied with printing ink either by immersion or by an ink pump system.
After removal of any surplus by means of ink wipers, the ink remains in the engravings in the shape of the lettering, which is then rolled onto the cable directly.

Gravure printers from
Medek & Schörner:
European engineering at its best.
Made in Austria.

The KS Series comprises several precision-engineered gravure printers for marking hot or cold cable or wire insulation. Laer engraved, interchangeable printing discs ensure distinct legend and number marking.
From simple, rugged KS 20 printer for low speeds up to 150m/minute to high performance tandem head machines with interchangeable ink supply system for speeds up to 1500 m/min the KS series comprises a number of top quality ink gravure printers for all marking needs.
Tandem-head machines and modular, interchangeable ink supply systems for extended performance.

Our international distribution network provides expert consulting and service support worldwide.

Marking of text and numbers

KS 20

Marking machine for embossing hot plastic insulated wires or cables
Stamping at speeds up to 300 m/minute

Applications

- Stamping hot insulation within the production line immediately after the extruder.
- Stamping at speeds up to 300 m/minute, gravure printing up to 150 m/min.
- Processing cables 1.5 to 40 mm in diameter.

Standard Configuration

- Frame with support column and height adjustment crank mechanism.
- Marking unit with one marking station and guide rollers.
- Conversion kit for gravure printing.
- Complete accessories kit without stamping/printing discs.
- Custom type discs are available separately.

Features

- Recessed or raised lettering.
- Convertible to gravure printing.

KS 20 C

Gravure printing machine for printing on cold or hot plastic or rubber insulated wire or cable.
Marking speeds up to 150 m/minute

Applications

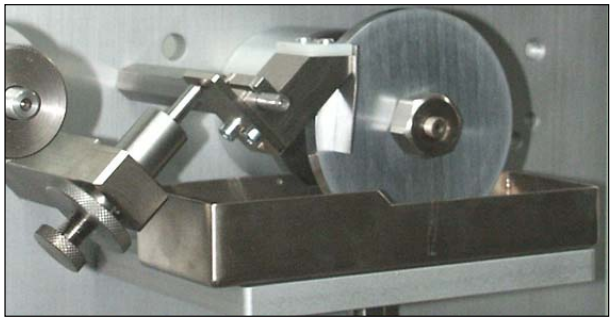
- Marking cable within the production line, downstream from cooling bath and drying fan.
- Marking cable in a separate winding system.
- Stamping at speeds up to 150 m/minute.
- Processing cables 1.0 to 80 mm in diameter

Standard Configuration

- Frame with support column and height adjustment crank mechanism.
- Marking unit for one printing disc, with guide roller.
  1 dedicated wiping system for the specified printing disc.
- Complete accessories kit without printing discs.
- Printing discs are available separately.

Features

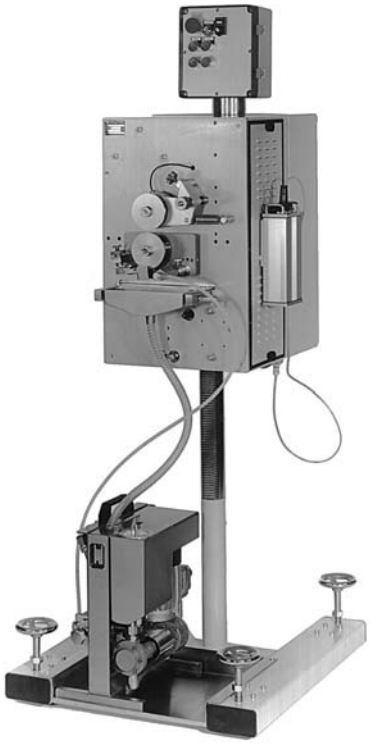
- Laser engraved printing disc.
- Ink wiping system for flat and concave rim printing discs.



The printing disc dips into the ink trough and takes up the ink; the surplus of ink is wiped away from the wheel surface – only remains in the etchings

GRAVURE PRINTING

- Single Head
- Friction Driven -> 400-800 m/min
- Exchangeable Ink Supply System



KS 40 FM

Gravure printing machine with single printing station for marking hot cable insulation.
Replaceable ink supply module with ink tank, pump, cooler, filters, and ink flow fine adjustment valve
Printing speeds up to 400-800 m/minute

Features

Replaceable ink supply module for quick color change within about 2 minutes.
- Suitable for printing discs with flat or concave rim matching the
- cable diameter.
- Easy to operate, clean, and maintain.
- Friction driven by the cable

Application

- Marking cable within the extrusion line.

Specifications

- Max. printing speed:
  400 to 800 m/minute depending on insulation material and marker location within the production line
- Cable diameter: 1 mm to 24mm (up to 80 mm with option G)
- Printing discs: 86 mm in diameter, flat or concave rim

Standard Configuration

- Frame with support column and heigh adjustment crank mechanism.
- Marking unit for one printing disc.
- 1 set of dedicated wiper and guide roller for the specified printing disc.
- Replaceable ink supply module with ink tank, pump, cooler, filters and ink flow line adjustment valve.
- Complete accessories kit without printing discs.

GRAVURE PRINTING

- Single Head
- Friction Driven -> 400-800 m/min

KS 40 C

Gravure printing machine with single printing station for marking hot cable insulation.
Diaphragm pump and ink suction pipe for use with original containers supplied by ink manufacturers
Printing speeds up to
400-800 m/min

Application

- Marking cable within the extrusion line.

Specifications

- Max. printing speed:
  400 to 800 m/minute depending on insulation material and marker location within the production line
- Cable diameter: 1 mm to 24mm (up to 80 mm with option G)
- Printing discs:
  86 mm in diameter, flat or concave rim

Standard Configuration

- Frame with support column and height adjustment crank mechanism.
- Marking unit for one printing disc.
- Diaphragm pump and ink suction pipe for use with original containers supplied by ink manufacturers.
- 1 set of dedicated ink wiper and guide roller matching the specified printing disc.
- Complete accessories kit without printing discs.

Features

- Integrated ink supply system for use with original ink containers.
- Quick and easy color changing.
- Suitable for printing discs with flat or concave rim matching the cable diameter.
- Easy to operate, clean, and maintain.
- Friction driven by the cable

- Single Head
- Print Wheel Drive - > 1200m/min
- Exchangeable Ink Supply System

KS 42 C-FM

High-performance gravure printing machine with single printing station for marking hot cable insulation.
Replaceable ink supply module with ink tank, pump, cooler, filters, and ink flow fine adjustment valve.
Printing speeds up to 1200 m/min

Applications

- Marking cable within the extrusion line.

Specifications

- Max. printing speed: 1200 m/minute
- Cable diameter: 1 mm to 24mm (up to 80 mm with option G)
- Printing discs: 86 mm in diameter, flat or concave rim

Standard Configuration

- Frame with support column and height adjustment crank mechanism.
- Marking unit with synchronized drive for one printing disc.
- Built-in control console.
- 1 set of dedicated ink wiper and guide roller matching the specified printing disc.
- Replaceable ink supply module with ink tank, pump, cooler, filters, and ink flow fine adjustment valve.
- Complete accessories kit without printing discs.

Features

- Rugged, virtually maintenance-free AC drive.
- Incremental tachometer and reference sensor mounted on the printing disc shaft provide exceptionally accurate synchronization.
- Automatically synchronized stroboscope of extremely high light efficiency allows proper inspection even at slow marking speeds.
- Electronically synchronized printing disc drive.
- Integrated control electronics accepting synchronization signal from extrusion line or optional tacho generator unit.
- Replaceable ink supply module for quick color change within about 2 minutes.
- Suitable for printing discs with flat or concave rim matching the cable diameter.
- Easy to operate, clean, and maintain.

- Single Head
- Print Wheel Drive - > 1200m/min

KS 42 C

High-performance gravure printing machine with single printing station for marking hot cable insulation.
Diaphragm pump and ink suction pipe for use with original containers supplied by ink manufacturers.
Printing speeds up to 1200 m/min.

Applications

- Marking cable within the extrusion line.

Specifications

- Max. printing speed: 1200 m/minute
- Cable diameter: 1 mm to 24mm (up to 80 mm with option G)
- Printing discs: 86 mm in diameter, flat or concave rim

Standard Configuration

- Frame with support column and height adjustment crank mechanism.
- Marking unit with synchronized drive for one printing disc.
- Diaphragm pump and ink suction pipe for use with original containers supplied by ink manufacturers.
- 1 set of dedicated ink wiper and guide roller matching the specified printing disc.
- Complete accessories kit without printing discs.

Features

- Rugged, virtually maintenance-free AC drive.
- Incremental tachometer and reference sensor mounted on the printing disc shaft provide exceptionally accurate synchronization.
- Automatically synchronized stroboscope of extremely high light efficiency allows proper inspection even at slow marking speeds.
- Electronically synchronized printing disc drive.
- Integrated control electronics.
- Integrated ink supply system for use with original ink containers.
- Quick and easy color changing.
- Suitable for printing discs with flat or concave rim matching the cable diameter.
- Easy to operate, clean, and maintain.

GRAVURE PRINTING

- Tandem Printing Head
- Quick Change of Legend
- Friction Driven -> 400-800 m/min
- Exchangeable Ink Supply System

KS 422 C-FM

Gravure printing machine with tandem printing station for marking hot cable insulation.
Printing speeds up to 400-800 m/min

Application

- Marking cable with quick code and color change possibility within the extrusion line.

Specifications

- Max. printing speed:
  400 to 800 m/minute depending on insulation material and marker location within the production line
- Cable diameter: 1 mm to 24mm (up to 80 mm with option G)
- Printing discs:
  86 mm in diameter, flat or concave rim

Standard Configuration

- Frame with support column and height adjustment crank mechanism.
- Tandem printing station for two different, free-running printing discs.
- Integrated pneumatic printing disc selector with additional control input for automatic switching via external contact closure.
- 1 set of dedicated ink wipers and guide rollers matching the specified printing discs.
- Replaceable ink supply module with ink tank, pump, cooler, filters, and ink flow fine adjustment valve.
- Complete accessories kit without printing discs.

Features

- Quick switching between printing discs with no loss of marks.
- Replaceable ink supply module for quick color change within about 2 minutes.
- Suitable for printing discs with flat or concave rim matching the cable diameter.
- Friction driven by the cable

- ***Tandem Printing Head***
- ***Quick Change of Legend***
- ***Print Wheel Drive - > 1200m/min***
- ***Exchangeable Ink Supply System***

KS 442 C-FM

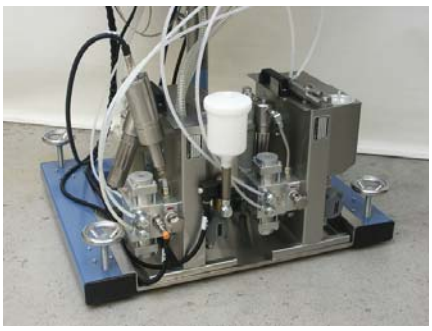
High-performance gravure printing machine with tandem printing stations for marking hot cable insulation.
Printing speeds up to 1200 m/min

Applications

- Marking cable with quick code and color change possibility within the extrusion line.

Specifications

- Max. printing speed: 1200 m/minute
- Cable diameter: 1 mm to 24mm (up to 80 mm with option G)
- Printing discs: 86 mm in diameter, flat or concave rim



Standard Configuration

- Frame with support column and height adjustment crank mechanism.
- Tandem marking unit with synchronized drive for two different printing discs.
- Integrated pneumatic printing disc selector.
- Integrated control electronics with additional input for automatic switching via external contact closure.
- Built-in control console.
- 1 set of dedicated ink wipers and guide rollers matching the specified printing discs.
- Replaceable ink supply module with ink tank, pump, cooler, filters, and ink flow fine adjustment valve.
- Complete accessories kit without printing discs.

Features

- Rugged, virtually maintenance-free AC drive.
- Incremental tachometer and reference sensor mounted on the printing disc shaft provide exceptionally accurate synchronization.
- Automatically synchronized stroboscope of extremely high light efficiency allows proper inspection even at slow marking speeds.
- Electronically synchronized printing disc drive.
- Quick switching between two different codes with no loss of marks.
- Replaceable ink supply module for quick color change within about 2 minutes.
- Optional second ink supply module allows quick color change.
- Suitable for printing discs with flat or concave rim matching the cable diameter.

- Printing from 2 Sides
- Print Wheel Drive - > 1200m/min
- Exchangeable Ink Supply System

KS 510 C-FM

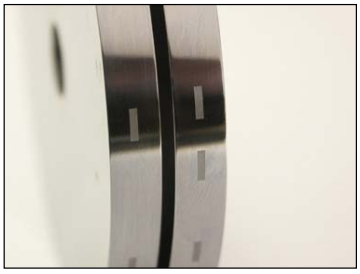
Gravure printing machine for marking opposite sides of hot plastic insulated cables.
Printing speeds up to 500 m/minute

Application

- Marking opposite sides of cables with the same or different codes within the extrusion line.

Specifications

- Max. printing speed: 500 m/minute
- Cable diameter: 1 mm to 20 mm
- Printing discs: 86 mm in diameter, concave rim



Standard Configurations

- Frame with support column and height adjustment crank mechanism.
- Marking unit with synchronized, phase-adjustable drive for two facing printing discs.
- Integrated control electronics and built-in control console.
- 1 set of dedicated ink wipers and guide rollers matching the specified printing discs.
- Replaceable, compact ink supply module with ink tank, pump, cooler, filters, and ink flow fine adjustment valve.
- Complete tacho generator unit.
- Complete accessories kit without printing discs.

Features

- Electronically synchronized printing disc drive.
- Mechanical phase control for staggered marking.
- Replaceable ink supply module for quick color change within about 2 minutes.
- Optional second ink supply module allows even faster color change.
- Suitable for concave rim printing discs.
- Remote tacho generator unit for measuring cable speed.

- 10 Printing Station
- Quick Legend Change
- Print Wheel Drive - > 1200m/min
- Exchangeable Ink Supply System

KS 800-FM

High-performance gravure printing machine with turret marking unit for marking hot cable insulation.
Printing speeds up to 1200 m/min

Application

- Marking cable with ten different, selectable codes within the extrusion line.

Specifications

- Max. printing speed: 1200 m/minute
- Cable diameter: 1 mm to 20 mm
- Printing discs: 86 mm in diameter, flat or concave rim

Standard Configuration

- Frame with support column and height adjustment crank mechanism.
- Turret marking unit with precision drive for ten different printing discs.
- Integrated pneumatic printing disc selector and control electronics with additional input for automatic sequencing via external contact closure.
- Built-in control console.
- One ink wiping system per printing disc for easy setup and low doctor blade wear.
- Replaceable ink supply module with ink tank, pump, cooler, filters, and ink flow fine adjustment valve.
- Complete accessories kit without printing discs.

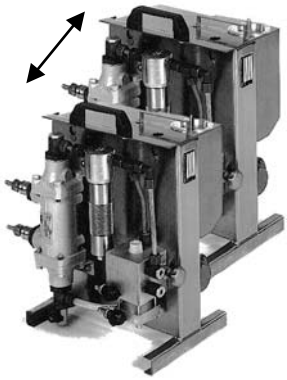
Features

- Electronically controlled precision drive for printing discs.
- Ten different marking codes selectable manually or automatically with no loss of marks.
- Replaceable ink supply module for quick color change within about 2 minutes.
- Suitable for printing discs with flat or concave rim matching the cable diameter.

Options for Cable Markers

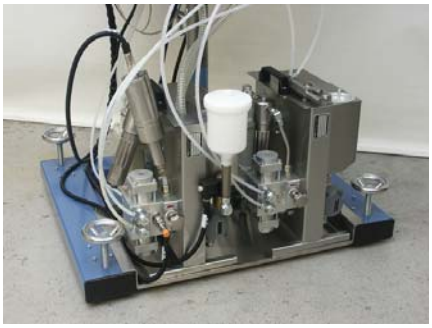
Stroboscope. Option B

Automatically synchronized flashing stroboscope for monitoring the quality of printed marks.



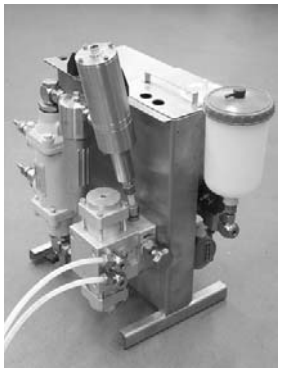
Replaceable ink supply module. Option FM

With ink tank, pump, cooler, filters, and ink flow fine adjustment and selector valves. Allows the printing ink to be changed in about 2 minutes. Ink can be stored in the ink tank for several weeks with no degradation of ink properties.



Automatic viscosity control for printing inks. Option V

A rotating sensor causes thinner to be added when the viscosity deviates from a preset value.



Options for Cable Markers

Ink level sensor and indicator system for FM ink tanks.
Option LD
Triggers a warning signal as the ink level drops below minimum.

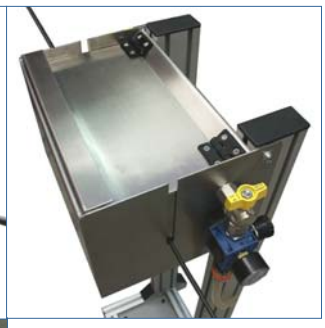
Ink flow sensor and indicator system.
Option FW
Triggers a warning signal as the ink flow deviates by an adjustable amount from the preset value.

Ink Supply Module Service Rack
Castor mounted rack with power supply and compressed-air input for one Ink Supply Module. For easy rinsing, cleaning, and changing of inks away from the marking machine.

Extension for cable diameters up to 80 mm.
Option G
Special support for guiding rollers for cable diameters up to 80 mm

Water Misting Unit WNB

Misting unit for the application of fine water dust for pre-cooling of the hot wire immediately after the extruder



Standard Configuration

- The water dust spray unit is installed on a separate stand to be positioned near the extruder.
- Two water spray nozzles with water and compressed air connections and with water drain hose connetion

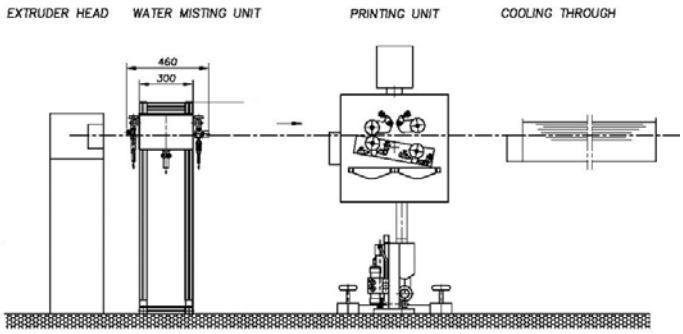
Features

- Misting unit for installation between extruder and printer
- Applies a fine water layer to the wire surface that evaporates before the wire enters the printer.
- Reduces the wire surface temperature and avoids the hot plastic material sticking on the print wheel
- Replaces pre-cooling trough, air wipes and vacuum device
- No need of relatively extensive and at higher speeds insufficiently working air blowers

Application

- Misting unit for the application of fine water dust for cooling purposes in particular for high speed printing applications.

See example of an installation on the right:
Water misting unit WNB installed in extrusion line with tandem high speed cable printer model KS 442 C-FM



Accessories for cable Markers

Printing Discs

Printing discs are available with any combination of numbers, letters, or other characters (specify when ordering).
All printing discs are 86 mm in diameter, with a 12.7-mm (1/2“) center hole.
Concave rim printing discs are available for cables up to 7.8 mm in diameter, flat rim printing discs for cable diameters of 8 mm and larger (flat wheels can of course also be used for smaller cable diameters). The following standard types are available:

Type	Cable diameter
00	up to 0,8 mm
0	up to 1,7 mm
1	up to 2,2 mm
2	up to 2,8 mm
3	2,8 to 3,3 mm
4	3,4 to 4,5 mm
5	4,6 to 5,6 mm
6	5,7 to 7,8 mm
F	for all diameter ranges

Ink Wipers, Guide Rollers

The ink wipers and guide rollers required for the specified printing disc(s) are supplied with each KS Series marker.
For marking cables of different diameters, you will need one set of appropriate ink wipers and guide rollers for each cable gauge. We recommend to order these along with the printing disc(s):
KS 40, KS 42: 1 set of ink wiper and guide roller;
KS 422, KS 442: 2 sets of ink wipers and guide rollers;
KS 510: 2 ink wipers;
KS 800: ink wipers, 1 guide roller.

Accessories for cable Markers

Sharpener

Tool for sharpening worn circular nylon doctor blades. Comprises a set of rod holders for the various rod or tube sizes and a knife case for cutting off the worn out section of the doctor blade.

Doctor rods / wipers

New machines or ink wipers are supplied with a set of doctor blades of the appropriate size.
However, we recommend to keep several replacement doctor blades for each type of printing disc in use.
Doctor blades can be sharpened several times.

Marking Inks

We recommend inks of a viscosity of approx. 40 to 70 seconds (as measured with a DIN 4-mm measurement cup) containing low to medium volatility solvents to prevent premature pigment sedimentation on the printing discs.
Suitable inks for all KS Series markers are available from Medek & Schörner.