

STOMA

Etching machines and machines for cutting dies



Steel etching machine



Developing machine



Brush machine



Laminator



Regeneration

STOMA- Etching machines and machines for cutting dies

Production of punched sheets made of special steel with etching (etching machines). These machines were conceptualised for etchings of cutting dies made of steel plates. The machine works in cyclic spray etching procedure. An additional oscillation of spray machine as well as variable cycle speed enables an exact etching of punched sheet.

The following machines and devices are required for manufacturing these cutting dies:

1. Plate cutter **DIGITAL**
2. Preparation basin
3. Brush machine
4. Laminator
5. UV Setter
6. Development machine
7. Steel etching machine
8. Regeneration
9. Post-treatment basin
10. Brush machine
11. CNC cutting machine
12. Bending machine
13. Hold-down cylinder



1. Plate cutter **DIGITAL**

The cutting machine cuts with the exact size specified.

2. Preparation basin

In the preparation basin, the steel plate is greased and cleaned off of particles.

3. Brush machine

The brush machine is used for the scarification of the special sheet to increase the adherence of the photo layer on the steel sheet.

4. Laminator

The laminator covers the steel sheet on the top and bottom.

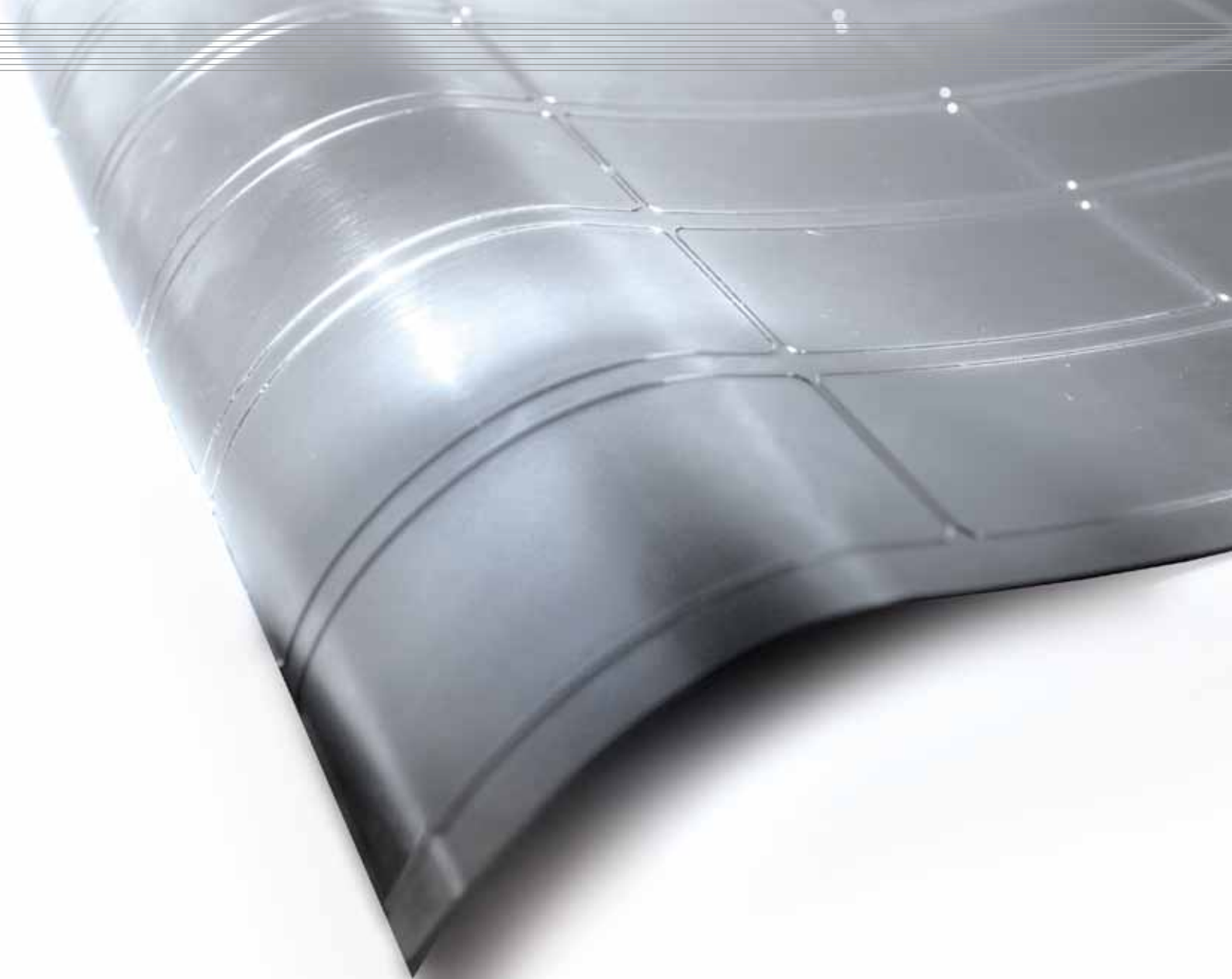
5. UV-Setter, digital/CtP

The UV setter lights up the plates automatically with the use of UV light.

6. Developing machine

The covered and copied plate is developed automatically in the developing machine using a soda solution.





9. Post-treatment basin

Cleaning is done using a hand spray to remove residues from the etching procedure.

10. Brush machine (3.)

The brush machine is used for the scarification of the special sheet to increase the adherence of the photo layer on the steel sheet.

12. Bending machine

For creating the initial radii of the sheet. Enables a simple clamping on the magnetic punched cylinder.

7. Steel etching machine

STOMA Steel etching machines with spray method has four cycle widths: 650,850,1050 and 1250mm

8. Regeneration

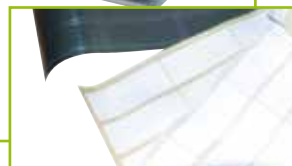
The regeneration prepares etching medium again and directs it back to the etching circulation in the complex process technology.

11. CNC Engraving machine

CNC Engraving machine with special vacuum table is used for subsequent sharpening of the etched die cuts

13. Proof cylinder

The proof cylinder is used for the simple checking of dies with original materials.



STOMA plate cutting machines

Plate cutter KPS-SE DIGITAL

This plate cutter has two extra strong cutters made of high alloy special steel. The upper cutter is moved downwards with an **electric eccentric operation**, the lower cutter remains stationary. An adjustable servo edge guide installed on both sides enables angular separation of plates.

The exact cutting process is documented with an integrated camera.



Plate cutter KPS-SE DIGITAL

KPS 085-SE DIGITAL

KPS 102-SE DIGITAL

KPS 130-SE DIGITAL



STOMA brush machines

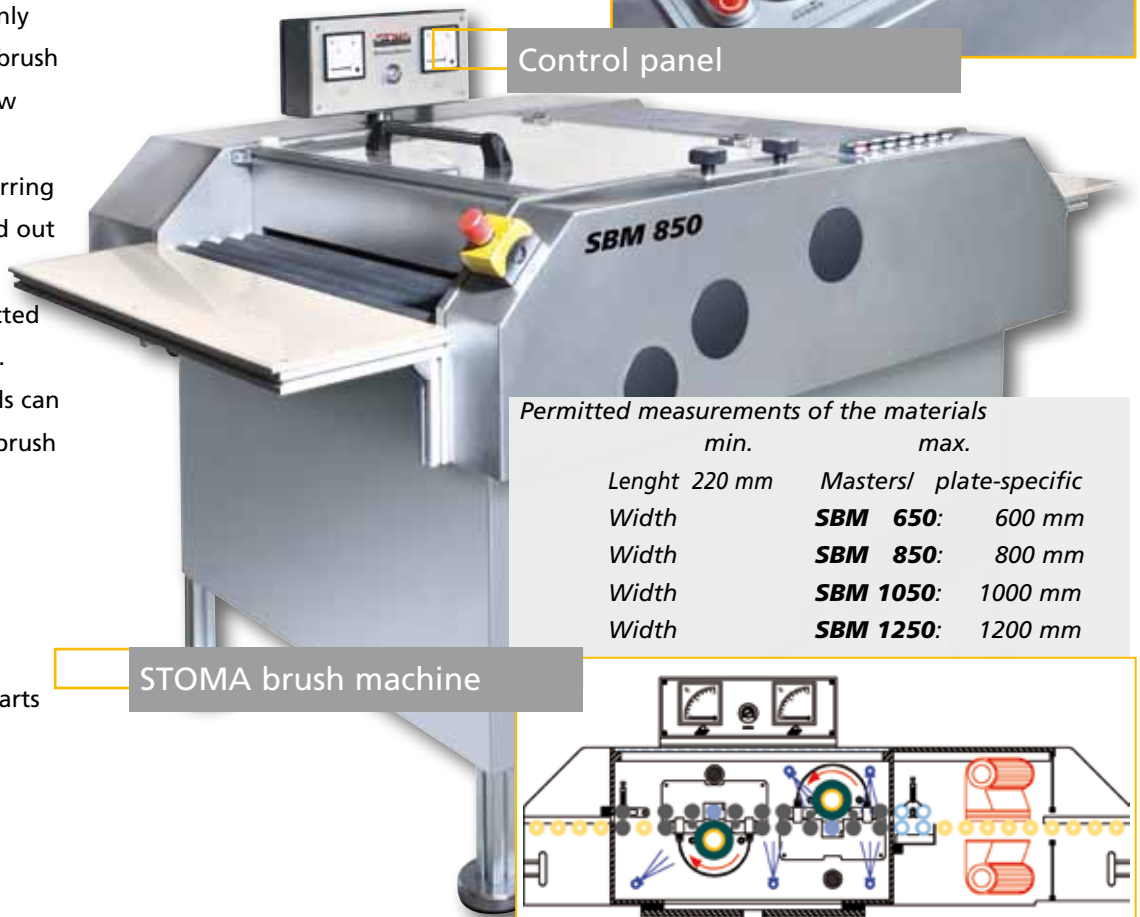
The brush machine is a horizontal stainless steel tunnel machine. The machine is designed in a way that the transport direction is only from left to right. The brush roll turns in process flow direction (of the parts). Cleaning, surface or burring processes can be carried out with the machine, depending on the selected brush rolls and brushes. Only plate-like materials can be processed with the brush machines, such as:

- Guide plates
- Ceramic substrate
- Thick film circuitry
- Punched and laser parts
- Die etched parts

It is not suitable for materials which are unstable, extendable or compressible and are not resistant to bending.



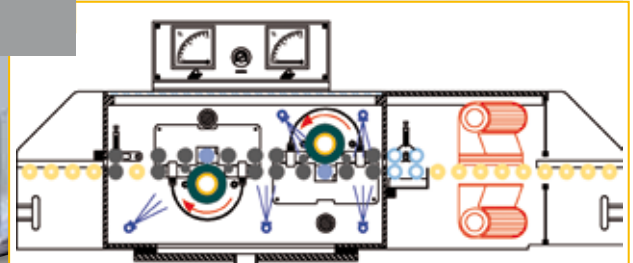
Control panel



Permitted measurements of the materials

	min.	max.
Lenght	220 mm	Masters/ plate-specific
Width		SBM 650: 600 mm
Width		SBM 850: 800 mm
Width		SBM 1050: 1000 mm
Width		SBM 1250: 1200 mm

STOMA brush machine



STOMA Laminator



Precise rolling
guarantees per-
fect covering of
the plates

Control panel

Removable roller unit

Simple assembly and
disassembly with two
hand grips.



STOMA cover

The machine is designed to laminate 0.45 – 1.00 mm plates from both sides (steel sheets). The machine is equipped with variable cyclic speed as well as adjustable roller pressure 2400 N and gap adjustment.

Resists by various manufacturers can be processed without a problem. Guide bars with ball bearings can be adjusted according to the plate width.

The vacuum facility installed at the machine's inlet area is used for vacuuming out the residues remaining on the plate from the processing.

An exhaust system guides the hot air out of the machine.



Maschine Type	Plate width
STL 450:	400 mm
STL 650:	600 mm
STL 850:	800 mm
STL 1050:	1000 mm
STL 1250:	1200 mm

UV-Setter, digital / CtP

UV setter lights up the plates automatically with the use of UV light.

The Basysprint UV setter 742 is a flat-bed illuminator..

Its special output features. lights up pre-covered punched sheets of 0.46 to 1 mm. With the direct lighting with CtP, you can accelerate your production and benefit from a high process safety. The UV setters have been in use around the world since a decade and offer the highest possible safety.

CtP reduces the costs:

no film, no assembly and plate copies.

The processes in machines by other provides, this advantage is lost due to the high costs of the lamp. These UV setters are different, since our UV setters work with durable light modules with the new lighting concept DSI3 (Digital Screen Imaging).

STOMA UV-Setter



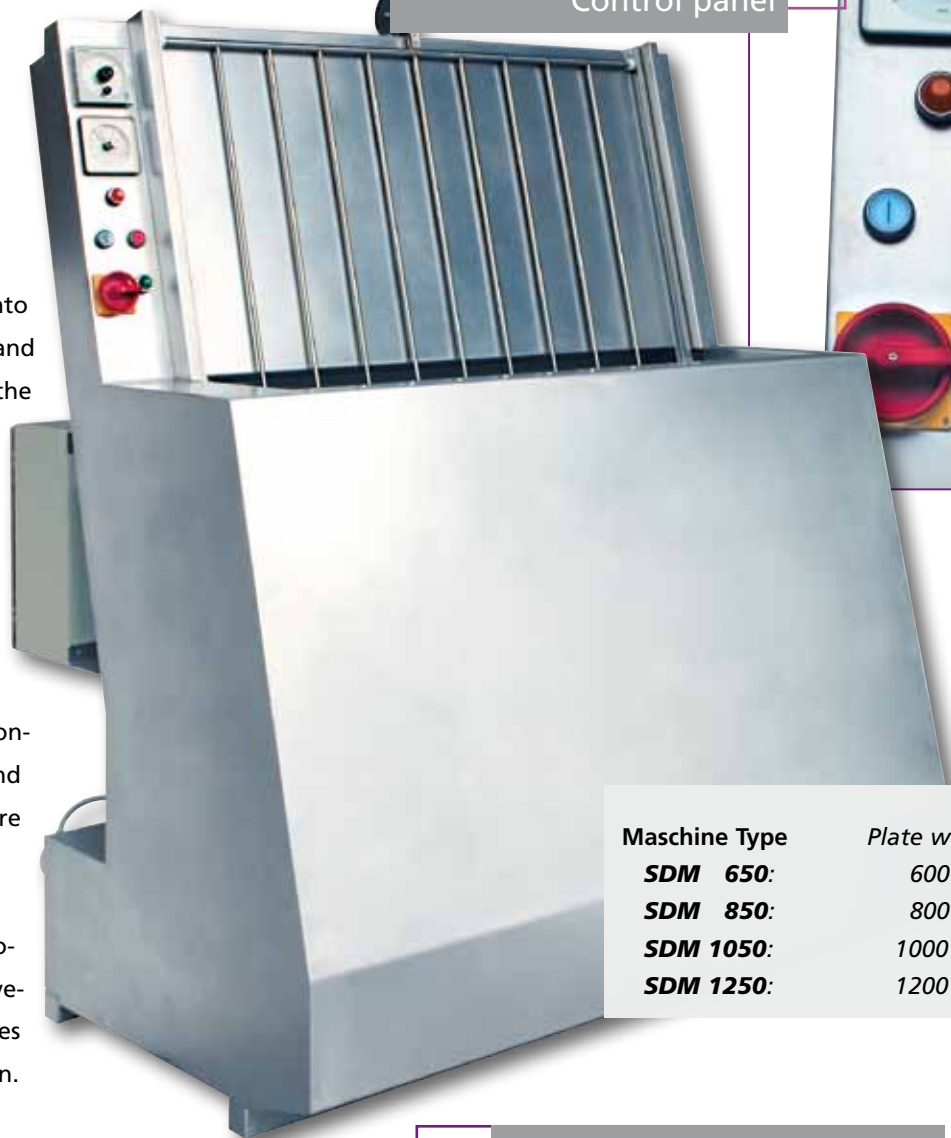
STOMA

Developing machine

The developing machine was made for processing the steel sheet covered with photo resist.

According to the copy or lighting of the plate per UV setter, it is fastened into the stainless steel frame and guided pneumatically in the special developer. An oscillating spray frame, in combination with the pump system, develops the plate in a bath.

An automatic temperature regulation keeps the bath's temperature constant. Developing time and temperature are set before fastening the plate. With the START button, the automatic developing process begins. After the developing time, the plate goes back to the initial position.



Control panel



Maschine Type	Plate width
SDM 650:	600 mm
SDM 850:	800 mm
SDM 1050:	1000 mm
SDM 1250:	1200 mm

FineLine developing machine

Alternative

Maschine Type	Plate width
FL 650:	600 mm
FL 850:	800 mm
FL 1050:	1000 mm
FL 1250:	1200 mm



STOMA

Etching machine for steel cut

1. →

2. →

Production of punched sheets made of special steel with etching (etching machine).

These machine was conceptualised for etchings of cutting dies made of steel plates.

The machine works in circuit spray etching procedure. An additional oscillation of spray machine as well as variable circuit speed enables an exact etching of punched sheet.

FineLine developing machine

FineLine etc

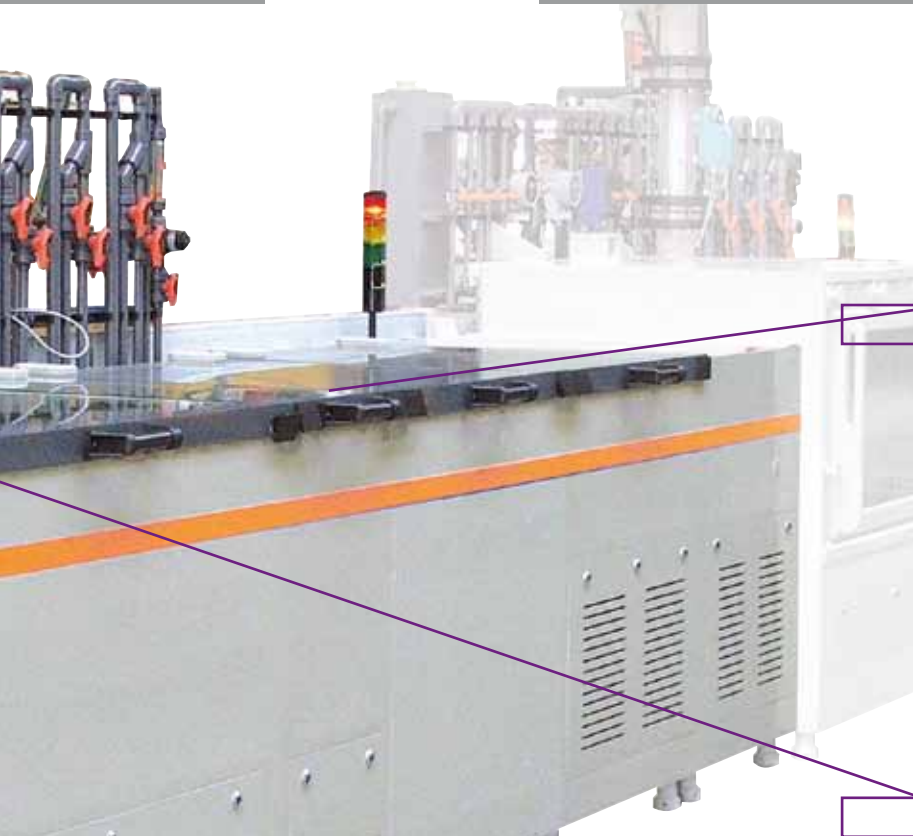
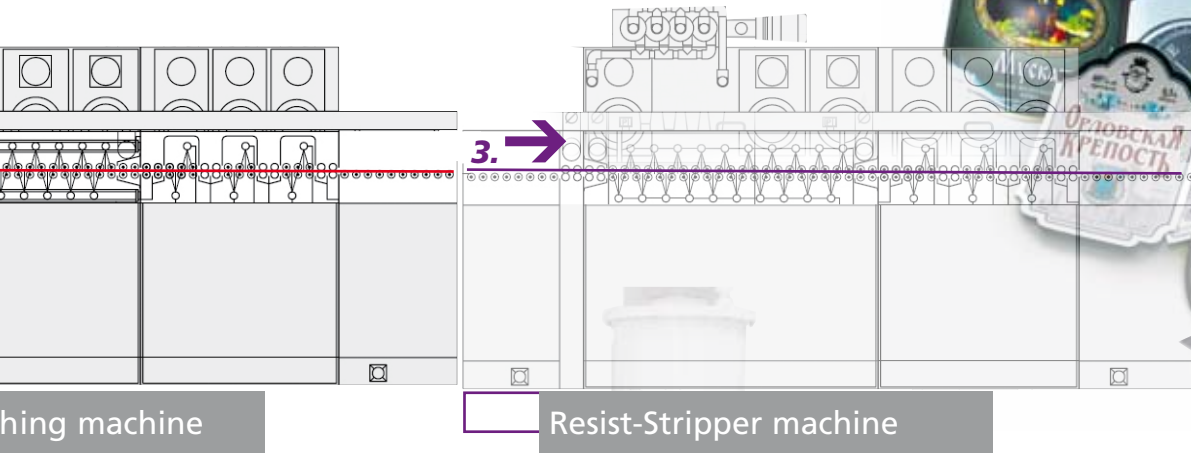


Complete etching machine



Cyclone filter resist stripper unit

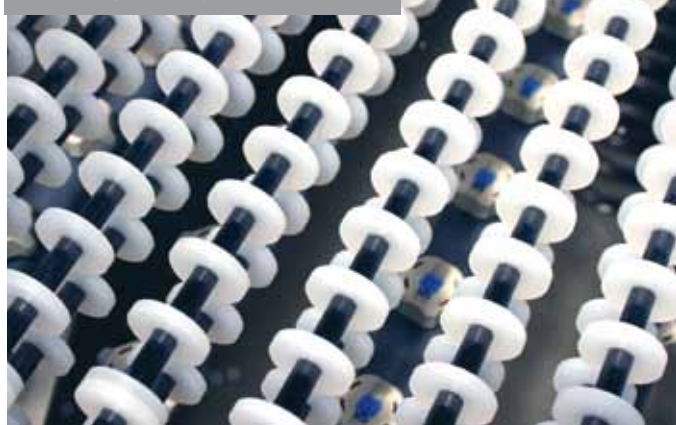
ting dies and sheets



Cleaning – 3-4 cascades unit



Etching/Spray unit



Insert



STOMA Regeneration Electrolysis unit

Regeneration

The machine made of PP is used for the regeneration of the etching medium and immediate feed into the etching cycle with complex procedures. With this regeneration process, the etching quality of the punched sheets are guaranteed. The electrolytic regeneration is an important, unavoidable part for punched sheet production with equal, standardised etching fluid.



Buffer tank

The buffer tank helps keep an equal etching intensity and stock of the regeneration etching medium.



Acid tanks

The acid tanks serve as acid reservoir tanks for the chemicals required in etching machines.



Acid tanks of
500 litres and
1000 litres

STOMA CNC Engraving machine, bending machine and proof cylinder

STOMA CNC

STOMA CNC

The CNC engraving machine with special vacuum table is used for subsequent sharpening of the etched die cuts. The rear micro-section of the punched sheet is removed.



STOMA Bending machine

For creating the initial radii of the sheet. Enables a simple clamping on the magnetic punched cylinder.



Easily adjustable

STOMA Proof cylinder

The proof cylinder is used for the simple checking of dies with original materials.



Options, e.g. POWERCHECK, digital display with exact adjustable and reproducible pressing pressure.



STOMA Complete machines for making high-class steel cutting dies and punched sheets.



STOMA Plate cutter KPS-SE **DIGITAL**

This plate cutter has two cutters made of high alloy special steel. The lower cutter is stationary. The exact cutting process is documented with an integrated camera

Machine Type

for max. plate width

STOMA Plate cutter KPS 085-SE DIGITAL	850 mm
STOMA Plate cutter KPS 102-SE DIGITAL	1020 mm
STOMA Plate cutter KPS 130-SE DIGITAL	1300 mm



STOMA Brush machine

The brush machine is used for the scarification of the special sheet to increase the adherence of the photo layer on the steel sheet.

Machine Type

for max. plate width

STOMA Brush machine SBM 650	600 mm
STOMA Brush machine SBM 850	800 mm
STOMA Brush machine SBM 1050	1000 mm
STOMA Brush machine SBM 1250	1200 mm



STOMA Laminator

The machine is designed to laminate 0.45 – 1.00 mm plates from both sides (steel sheets). The machine is equipped with variable cyclic speed as well as adjustable roller pressure 2400 N and gap adjustment.

Machine Type

for max. plate size

STOMA Laminator STL 450	400 x 600 mm
STOMA Laminator STL 650	600 x 800 mm
STOMA Laminator STL 850	800 x 1000 mm
STOMA Laminator STL 1050	1000 x 1000 mm
STOMA Laminator STL 1250	1200 x 1000 mm



UV-Setter, digital / CtP

The UV setter lights up the plates automatically with the use of UV light on the basis of computer-to-plate technology (CtP).

Machine Type

for max. plate size

UV-Setter 57	820 mm x 1270 mm
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STOMA Developing machine **SDM** ☐ **A**

The developing machine was made for processing the steel sheet covered with photo-resist. After copying the plate, it is fastened to a stainless steel frame and guided pneumatically to the special developer.

Machine Type

for max. plate size

STOMA Developing machine SDM 650	600 x 800 mm
STOMA Developing machine SDM 850	800 x 1000 mm
STOMA Developing machine SDM 1050	1000 x 1000 mm
STOMA Developing machine SDM 1250	1200 x 1000 mm



STOMA Developing machine **FL** ☐ **B**

The developing machine was made for processing the steel sheet covered with photo-resist.

Machine Type

for max. plate width

STOMA Developing machine FL 650	600 mm
STOMA Developing machine FL 850	800 mm
STOMA Developing machine FL 1050	1000 mm
STOMA Developing machine FL 1250	1200 mm



STOMA Steel etching machine ☐

Production of punched sheets made of special steel with etching. This machine was conceptualised for etchings of cutting dies made of steel plates.

Machine Type

for max. plate size

STOMA Steel etching machine 650	600 x 800 mm
STOMA Steel etching machine 850	800 x 1000 mm
STOMA Steel etching machine 1050	1000 x 1000 mm
STOMA Steel etching machine 1250	1200 x 1000 mm



STOMA Regeneration ☐

The machine made of PP is used for the regeneration of the etching medium and immediately directing it back to the etching circulation in the complex process

The buffer tank ☐



Acid tanks ☐

Acid tanks of 500 litres and 1000 litres



Machine Type

STOMA Regeneration capacity	Cell power: max 400A	300g iron/hour
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STOMA CNC ☐

The CNC engraving machine with special vacuum table is used for subsequent sharpening of the etched die cuts.

Machine Type

for max. plate size

STOMA CNC	800 x 500 mm
STOMA CNC	900 x 600 mm
STOMA CNC	1250 x 900 mm



STOMA Bending machine

For creating the initial radii of the sheet.
Enables a simple clamping on the magnetic punched cylinder.
With safety foot pedal and emergency stop.

Machine Type

for max. plate width

STOMA Bending machine	RBM 650	600 mm
STOMA Bending machine	RBM 850	800 mm
STOMA Bending machine	RBM 1050	1000 mm
STOMA Bending machine	RBM 1250	1200 mm



STOMA Proof cylinder

The proof cylinder is used for the simple checking of dies with original materials. Checking of rotation rods and punched sheets, completion of manual samples, small lot dies.
Options, e.g. POWERCHECK, digital display with exact adjustable and reproducible pressing pressure.

Machine Type

for max. plate width

STOMA Proof cylinder for plate width	200 mm to 1200 mm
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STOMA Acid tanks

Acid tanks without pressure for various chemicals.
Made of PP in various volume capacities.

Optionally deliverable with electronic control for filling the etching machine



Type	Material	Diameter x height	Volume
STOMA Acid tank CBR 500	PP	800 x 1120 mm	500 litres
STOMA Acid tank CBR 1000	PP	1000 x 1500 mm	1000 litres



STOMA Dark room shield

Dark room revolving door as light trap in two-chamber design with 2 openings per 500 width
Fits in light door openings:

1005-1050 width, 1960-1990 height

We can also customise the size of these revolving doors!

Type

Installed measurement

STOMA Dark room revolving door	1010 mm width and 1965 mm height
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Other STOMA Products



STOMA Etching machines

STOMA Etching machines are made of PVC/titanium or stainless steel. Special bath circulation, paddle speed and variable rotation enable etching for paintwork and minutest of grid works (safe print). High control safety, safe from

FeCl₃/nitric acid, easy operability of the machine



Machine Type	Bath volume	for max. plate size
STOMA Etching machine 35L for Mag. & Zinc	approx. 35 litres	300 x 400 mm
STOMA Etching machine 45L for Mag. & Zinc	approx. 45 litres	400 x 500 mm
STOMA Etching machine 45L for Mag. & Zinc	approx. 60 litres	400 x 500 mm
STOMA Etching machine 90L for Mag. & Zinc	approx. 90 litres	500 x 650 mm
STOMA Etching machine 120L for Mag. & Zinc	approx. 120 litres	800 x 800 mm
STOMA Etching machine 160L for Mag. & Zinc	approx. 160 litres	762 x 1016 mm
STOMA Etching machine 200L for Mag. & Zinc	approx. 200 litres	762 x 1016 mm
STOMA Etching machine 45L for Copper	approx. 60 litres	400 x 500 mm
STOMA Etching machine 90L for Copper	approx. 90 litres	500 x 650 mm
STOMA Etching machine 120L for Copper	approx. 120 litres	800 x 800 mm



STOMA Preparation basin in stainless steel

In the preparation basin, the magnesium/zinc plates are greased and cleaned off of particles. STOMA preparation basin has been prepared completely from stainless-steel. This product includes wooden grating, etching cup and an upper cover. The lower section has enough space for consumable chemicals. The design supports all commercially available plate sizes.

Machine Type

for max. plate size

STOMA Preparation basin <i>for Magnesium & Zinc</i>	500 x 650 mm
STOMA Preparation basin <i>for Magnesium & Zinc</i>	609 x 914 mm
STOMA Preparation basin <i>for Magnesium & Zinc</i>	1016 x 762 mm



STOMA Developing machine

The developing machine made of stainless steel simplifies the developing phase of the plates without coming in contact with the chemicals. Developing zones with connecting water sprays on both sides are integrated into this machine. An effective drainage can also be installed in addition.

Machine Type

Bath volume

for max. plate size

STOMA Developing machine 18 L	approx. 18 litres	500 x 650 mm
STOMA Developing machine 27 L	approx. 27 litres	609 x 914 mm
STOMA Developing machine 35 L	approx. 35 litres	1016 x 762 mm



STOMA Preparation basin in PVC

The upper part of the basin is made of PVC and is fitted inside a painted lower frame. A reservoir is fitted in the lower area of the lower frame to store chemicals. An integrated grating is used to drain out rinsed medium. Cleaning is done using a hand spray to remove residues from the etching procedure. After the treatment, the plate is free of FeCl₃ and carbonates.

Machine Type

for max. plate size

STOMA Preparation basin <i>for Copper</i>	500 x 650 mm
STOMA Preparation basin <i>for Copper</i>	800 x 800 mm

Plates

Magnesium plate sizes: *with Magenta or HydroSolve coating*

457 x 609 x 1,00 mm	609 x 914 x 1,75 mm
650 x 500 x 1,75 mm	609 x 914 x 2,00 mm
650 x 500 x 2,00 mm	609 x 914 x 3,00 mm
650 x 500 x 3,00 mm	609 x 914 x 4,00 mm
650 x 500 x 4,00 mm	609 x 914 x 5,00 mm
650 x 500 x 5,00 mm	609 x 914 x 7,00 mm
650 x 500 x 7,00 mm	762 x 1016 x 7,00 mm

Other sizes on request

Other Materials:

Copper	–	Standard size
Zinc	–	Standard sizes
Brass engraving quality	–	500 x 600 x 7 mm

Chemicals for copper:

FeCl ₃	–
13 B	– Side protective agent
13 A	– Side protective agent

Chemicals for magnesium:

Mago 20X	–	Side protective agent
Rev Flex	–	Side protective agent

Chemicals for zinc:

Toro ST	–	Side protective agent
Velv Etch	–	Side protective agent

Specific customer wishes are considered in planning. Our other products are neutralisation for nitric acid waste, air cleaner for cleaning for acidic etching vapours. Reverse products (etching materials) are sold exclusively in many

European countries including magnesium-zinc-copper plates and related chemicals. STOMA offers its customers services ranging from consultation to printing block production of all necessary technical details.

STOMA

Etching machines and systems

STOMA GmbH, graphics machines and equipment, was founded in December 1971. Etching machines and systems have been produced since the year of founding for

Relief printing,

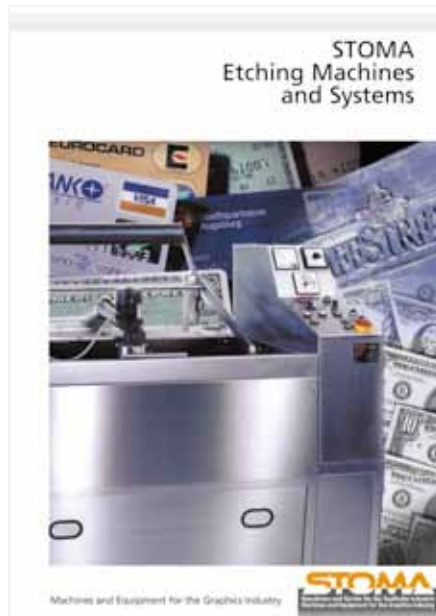
Flexo printing,

Embossed printing,

Rotogravure and

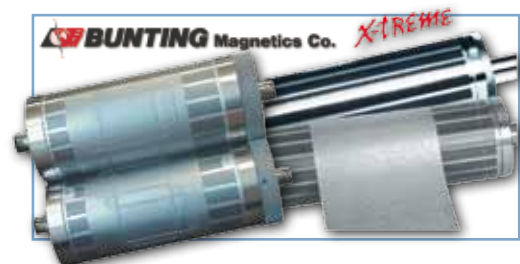
Safety printing.

STOMA systems always have state-of-the-art etching technologies based on in-house research. Our machines and devices with their solid, robust design are preferred the



world over by specialists. Besides good service, STOMA offers consultation and training for all etching works.

We also supply magnetic punched cylinder!



STOMA

Maschinen und Geräte für die Grafische Industrie
Machines and Equipment for the Graphics Industry

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