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Hydraulic embossing machine Silent 50

User manual



Schilderfabrik + Maschinenbau

Notices and exclusion of liability

This user manual will show you the proper and safe use of the Silent 50 hydraulic embossing machine from A. Sievers GmbH. A. Sievers GmbH assumes no responsibility for improper use of the machine.

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We reserve the copyright for this user manual; it is only intended for the personal use of the operator of the machine. The user manual contains technical regulations and designations that may neither be completely nor partially reproduced, distributed, or used in an unauthorized manner for the purposes of competition or passed on to others.

Please read this manual through carefully before using the machine and, in particular, observe the danger and safety notices.

Symbols



Hazard warning



Risk of hand injury



High voltage warning

Service

Our team is available for further information during our business hours.

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1. Safety and danger notices

The machine is equipped with safety equipment ex works that may not be removed during operation. For repair and maintenance work, individual safety equipment may be shut off without power by authorized personnel only for a brief period of time!

Warning:

Repair and maintenance work, in particular on the electrical components, may only be carried out by a service technician from A. Sievers GmbH or a specialist electrical company.

1.1 Basics for using the hydraulic embossing system

- For production at room temperature, not below 20°C.
- Store embossing material and tools in a dust-free area.
- Do not work with oily, wet, or dirty hands.
- Do not subject the embossing machine to large variations in temperature.
- The permitted embossing pressure may not be exceeded.
- Use only embossing tools allowed for the machine type

1.2 Danger notices

The following danger can arise from use of the machine:

- Crushing of fingers through inattentive work on the machine, in particular when inserting tools.
- Damage to the hydraulic system in connection with improper embossing tools.
- Damage to the tools and the hydraulic system with the selection of too high pressure.
- Cuts due to sharp edges on the embossing sites.



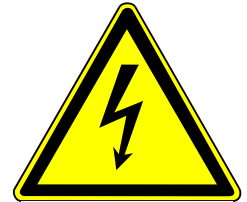
2. Set-up and connection

2.1 Connected load

- Power consumption 2,2 KW

2.2 Supply connections

- Plug connector protective contact 230 V 16A



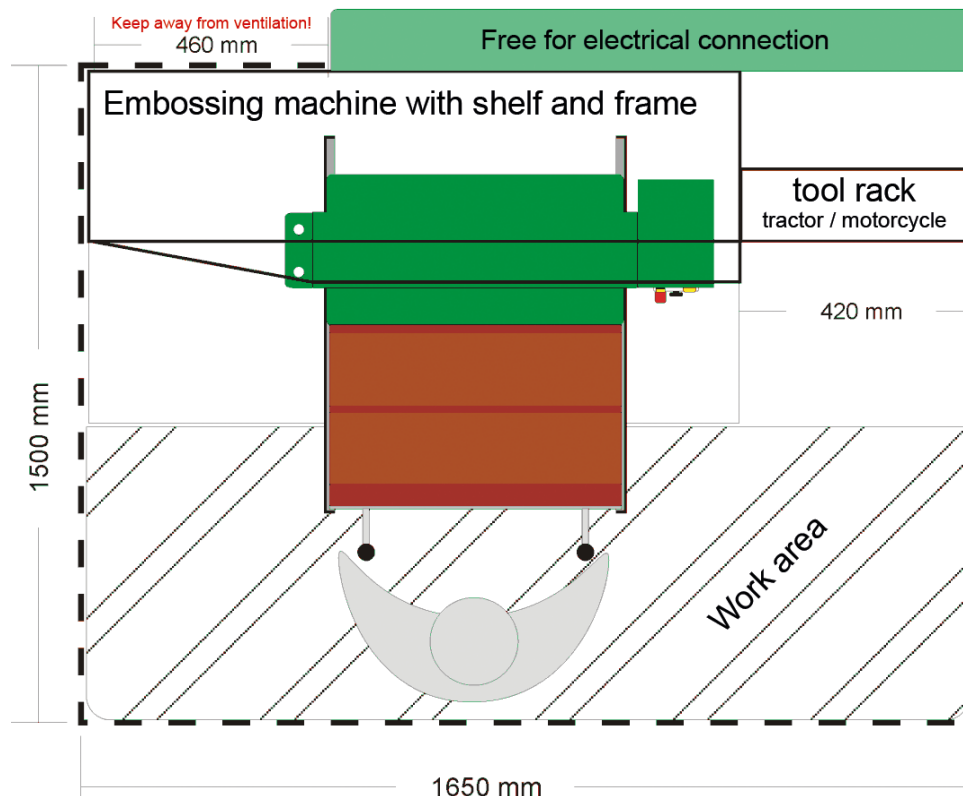
2.3 Set-up

In general, the machine must be set up in a room with a low dust factor. Particles of dirt and dust will always impact the embossing quality.

The ambient temperature may not fluctuate strongly and should be around 20°C.

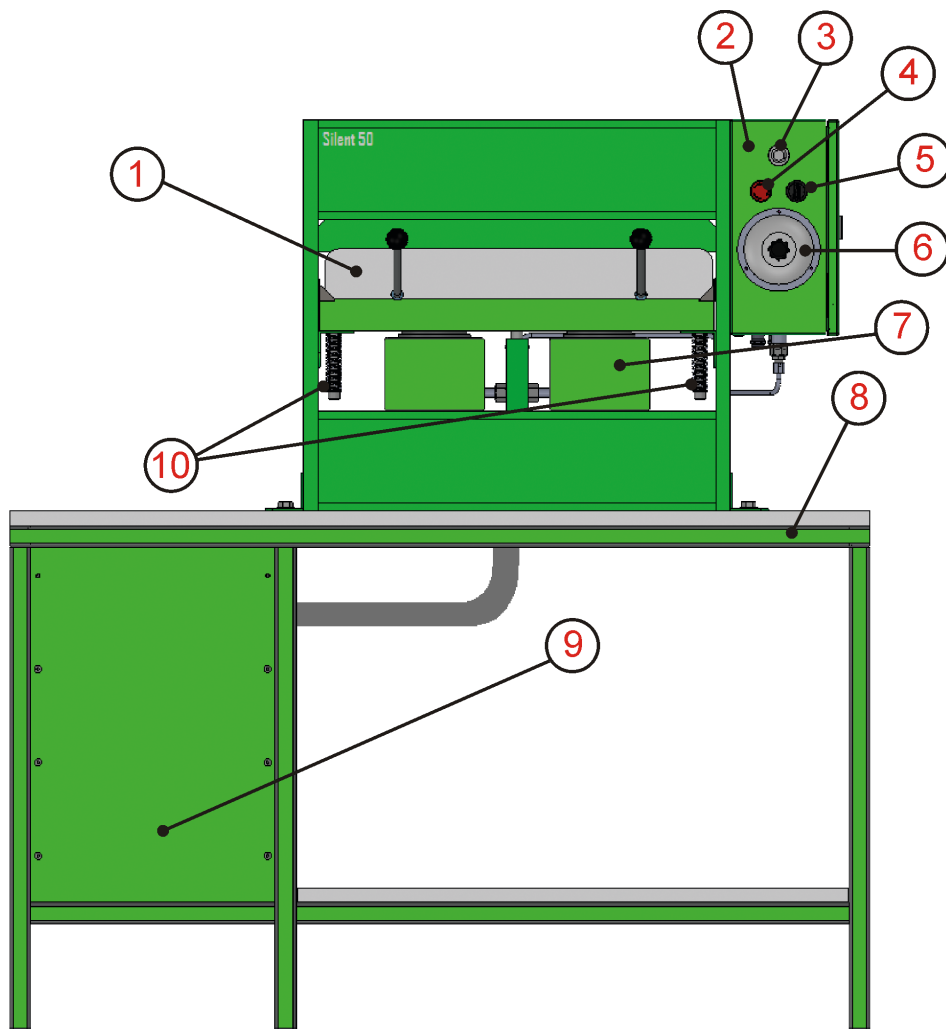
2.4 Sketch „Plan for set-up“

- Space requirement for the machine: see Point 6.1.



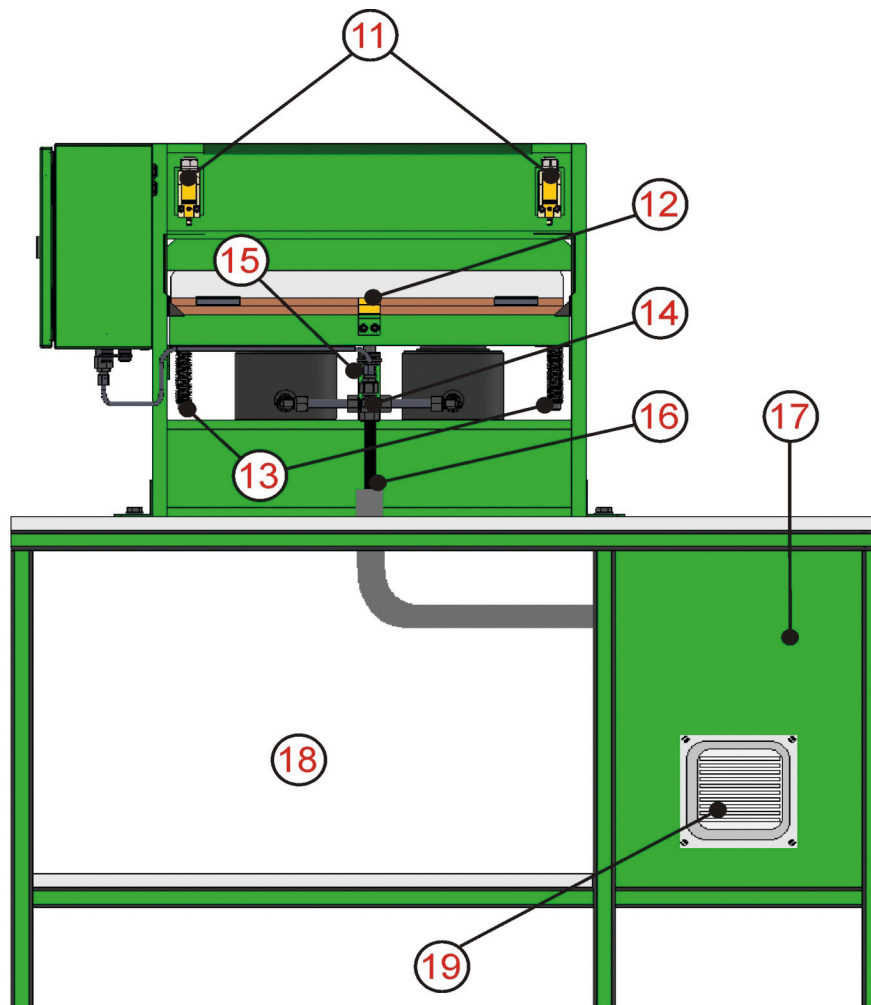
3. Components

3.1 Front view



1	Embossing frame (Sliding table for the embossing tools)	6	Pressure regulator
2	Electrical box	7	Hydraulic cylinder
3	Control light (Embossing process)	8	Lower frame
4	Emergency off button	9	Hydraulic service flap
5	Main switch	10	Embossing plate retaining spring in front

3.2 Rear view



- | | |
|---|---|
| 11 Boundary limit switch | 16 Hydraulic hose supply line |
| 12 Start button
(released by inserting table) | 17 Aggregate room |
| 13 Embossing plate retaining spring in back | 18 Stock tray |
| 14 Hydraulic connections | 19 Vent plate
(aggregate cooling) |
| 15 Embossing plate retaining spring in middle | |

4. Operation

4.1 Single-line embossing

In order to start the individual embossing process, the following must be done:

1. Switch on embossing machine via the main switch (5) and set the desired pressure (6).
2. Extract the embossing frame (1) and insert the embossing tools.
3. Insert the plate to be embossed into the tools.
4. The embossing machine will automatically switch on when the embossing frame with the tools and the plate is pushed through to the limit stop (12) in the machine.
5. After reaching the pressure installed on the pressure switch, the machine will automatically switch off - the embossing process is ended.
6. The embossing frame must be pulled out of the machine after the automatic shutdown of the machine and the sinking of the embossing table and the embossed plate must be removed from the embossing tools.



Warning:

The pistons of the embossing machine may not be started up without a embossing tool.

The machine may not be operated above **250 bar** !

Quality deviations are possible due to various paint of the back side of the plate (foil application) and various embossing tools.

4.2 Double-line embossing

In order to start the double-line embossing process, the following must be done:

1. Switch on the embossing machine via the main switch (5) and set the desired pressure (6).
2. Extract the embossing frame (1) and replace the embossing tools. For embossing double-line plates, the district tools (header letters) must be arranged in the last row and the distinguishing tools as well as numbers in the front row of the embossing frame. For this, hang the double line strip on the back portion of the embossing tray.
3. Insert the plate to be embossed into the tool.

4. The embossing machine will automatically switch on when the embossing frame with the tools and the plate is pushed through to the limit stop (12) in the machine.
5. After reaching the embossing pressure installed on the pressure switch, the machine will automatically switch off - the embossing process is ended.
6. The embossing frame must be pulled out of the machine after the automatic shutdown of the machine and the sinking of the embossing table and the embossed plate must be removed from the embossing tools.



Warning:

The pistons of the embossing machine may not be started up without a embossing tool.

The machine may not be operated above **250 bar** !

Quality deviations are possible due to various paint of the back side of the plate (foil application) and various embossing tools.

5. Maintenance

5.1 Instructions for care

- We recommend window cleaning agents or petroleum as a cleaning material for painted surfaces. The metallic surfaces should be cared for with Ballistol at least once per month.
- Lint-free cleaning cloths should be used.
- The embossing surface must always be kept clean.
- The machine mouth (upper or lower embossing surface) should be cleaned once per week. Dirt deposits can enter into the embossing tool during embossing. These become increasingly dirty, jam, and decrease the embossing quality. Already hardened deposits can only be removed mechanically.

5.2 Changing of rod seals

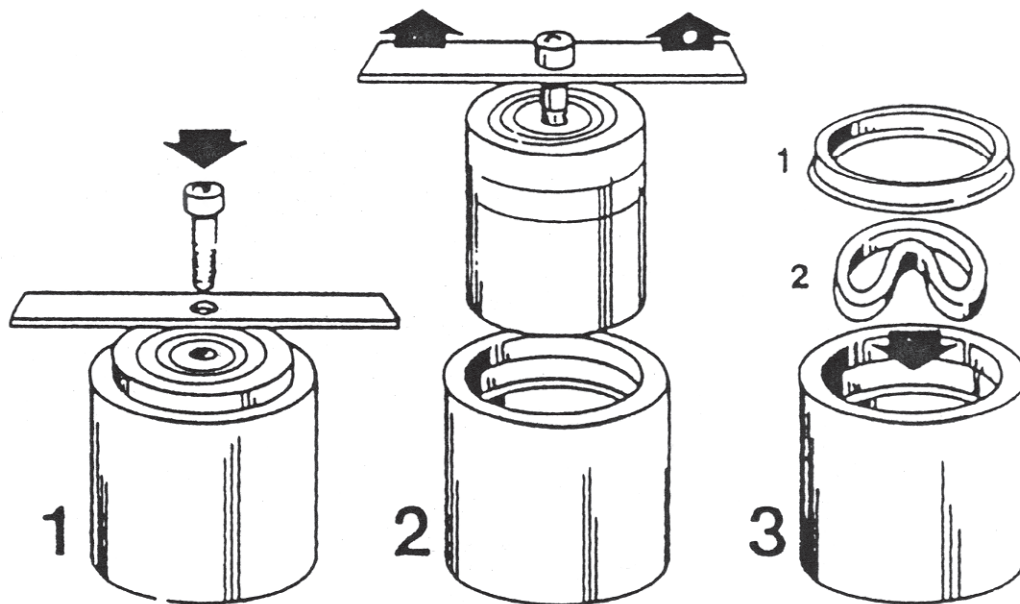
In order to change the rod seals, the following must be adhered to:

1. Release Allen screws Ø M12x50mm on the embossing plate (1) and unscrew the hydraulic connection to the cylinder.
2. The cylinder (7) can then be removed from the front.
3. With the help of a screw Ø M12, now the piston can be drawn out of the cylinder.
4. The seal is visible in the cylinder and can be removed with a flat tire lever. The piston and the cylinder may not be damaged while doing this!

Notice:

All parts of the embossing machine are in the warehouse and therefore available on short notice.

5.3 Sketch: changing rod seals



6. Technical Data

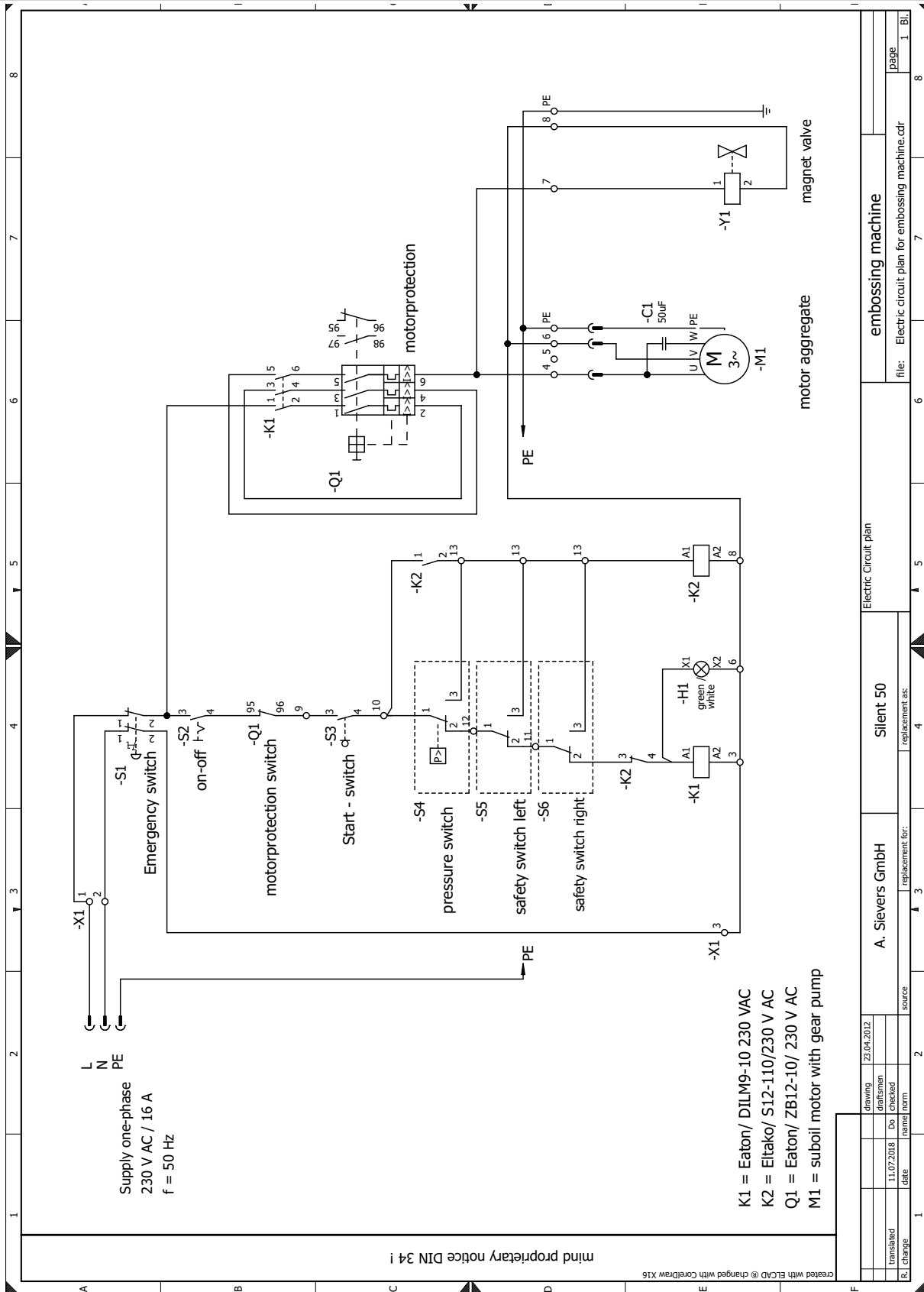
6.1 Technical data hydraulic embossing machine

■ Embossing machine:	250 bar
■ Piston diameter:	100 mm
■ Press surface:	550 x 240 mm
■ Intake height for embossing tool:	approx. 60 mm
■ Cylinder stroke:	max. 45 mm
■ Stroke limitation via end switch (adjustable):	approx. 15 mm
■ Operation voltage:	230 V / 50 Hz / 16A
■ Power consumption:	2,2 KW
■ Closing time (according to tool system):	2-5 seconds
■ Dimensions (L x W x H):	120 x 80 x 127 cm
■ Measurement with shelf (L x W x H):	120 x 80 x 198,5 cm
■ Weight:	approx. 300 KG

6.2 Description of the product and its safety installations

- HE-B Profile of welded construction in accordance with DIN 1025-2
- 2 High-pressure cylinders, single acting
- Retaining springs for faster work sequence
- Pistons hard chrome-plated with PE-Piston seal
- Oil hydraulic with maintenance-free pump
- Pressure switch with continuous/ selectable work pressure (max. 250 bar)
- Position switch to release the embossing process
- 2 Safety switches (prevents tipping of the printing plate)

8. Circuit diagram



9. Terminal diagram

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Notes

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