

**Table of contents**

1.	Intended use .....	1
1.1.	Description of the machine .....	2
1.2.	Function .....	3
1.3.	Technical data.....	4
1.3.1.	Technical data of the machine .....	4
1.4.	Scope of delivery .....	6
2.	Safety.....	7
2.1.	Warning symbols and danger signs.....	7
2.1.1.	Designation of the machine.....	8
2.2.	Safety standards .....	9
2.3.	Built-in safety systems .....	10
2.3.1.	Instructions.....	12
2.4.	Safety measures .....	13
2.5.	Safety tests .....	14
3.	Potential dangers .....	15
3.1.	Dangerous areas of the machine.....	17
3.2.	Duties of the operating company .....	18
3.3.	Operating and maintenance staff.....	19
3.4.	Disconnect procedures .....	20
4.	Transport and packing .....	21
4.1.	Delivery .....	21
4.2.	Unloading and transport to the place of installation .	22
4.2.1.	Lifting points .....	26
4.3.	Transport safeguard.....	27
5.	Installation.....	31
5.1.	Setting-up.....	31
5.2.	Installation.....	33
5.3.	Commissioning .....	36

5.3.1.	Setting instructions steam valve .....	37
5.3.2.	Setting instructions suction valve (one stage).....	38
5.3.3.	Setting of pressing iron .....	39
6.	Operation.....	41
6.1.	Operator's control and display .....	41
6.1.1.	Control panel with machine control.....	43
6.1.2.	Pedal strip.....	44
6.2.	Height adjustment for waistband clamp and stretching device	46
6.3.	Starting the machine .....	47
6.4.	Pressing in manual operation .....	48
6.5.	Pressing in automatic operation .....	51
6.5.1.	Overview of the function tracks.....	53
6.6.	Switching off the machine .....	53
7.	Maintenance .....	55
7.1.	Changing of pressing covers .....	55
7.1.1.	Changing cover of lower buck.....	57
7.1.2.	Changing cover of head buck .....	58
8.	Maintenance / Cleaning.....	61
8.1.	Cleaning .....	63
8.2.	Maintenance and inspection table .....	64
8.3.	Lubrication.....	65
8.4.	Machine checks.....	66
9.	Remedy of faults / Elimination of defects .....	67
9.1.	Fault, Cause, Remedy.....	68
9.1.1.	Alarm messages.....	68
9.1.2.	Setting of node switch.....	69
9.2.	Defects, Cause, Elimination .....	70
9.3.	Recommendations for pressing operations .....	74

10.	Emergency .....	77
11.	Dismantling / Disposal .....	79
12.	Spare parts lists .....	81
12.1.	Suction hose.....	82
12.2.	Steam and condensate plan.....	83
12.3.	Cover material .....	84
13.	EC declaration of conformity .....	87



# 1. INTENDED USE

This machine has been developed, designed and built for industrial and commercial use only.

The trouser top pressing machine BRI-2390/201 serves to press trouser tops by applying steam and pressure followed by a cooling phase upon completion of the trousers.

**Note**

The machine is intended for the working of textiles only. The manufacturer shall not assume any responsibility for modifications and changes which are not stated in the declaration of conformity.

If the place of installation does not comply with the intended use, rebuilding measures must be taken to obtain a higher level of protection (see chapter 1.3, Technical data).

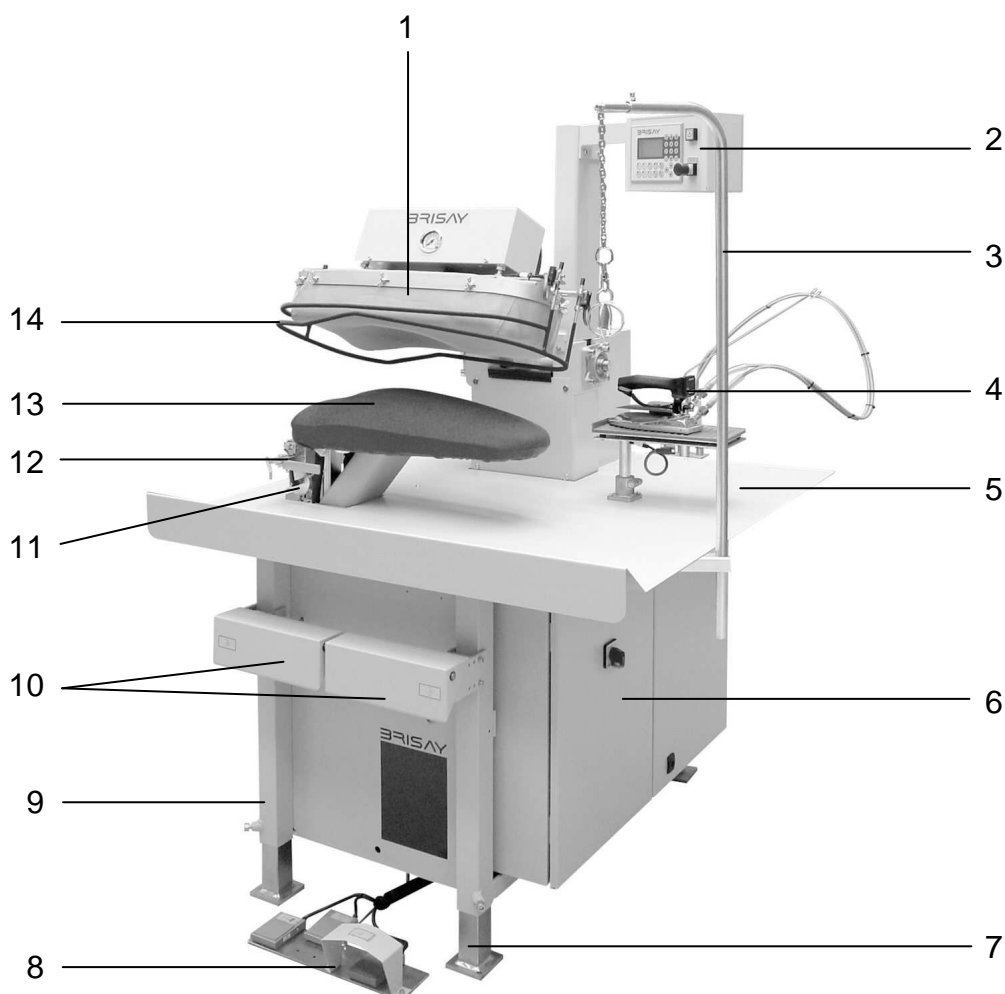


This machine serves the above-mentioned purpose only. Any other or further use as well as any rebuilding or retrofitting of the machine without the written consent of the manufacturer will be considered as non-compliance with the intended use. The manufacturer shall not be liable for damages caused by such use. The user alone bears the risk.

This also applies to the installation and setting-up of safety equipment and valves as well as to any changes in the supporting parts of the machine.

The intended use also comprises the observance of operating instructions and compliance with the inspection and maintenance intervals prescribed by BRISAY.

## 1.1. DESCRIPTION OF THE MACHINE



Ill. 1, Description of the machine

The machine is composed of the following subassemblies:

- |   |   |    |   |
|---|---|----|---|
| 1 | Head buck   | 9  | Ground frame  |
| 2 | Control panel with machine control<br><b>BRIcompact</b> | 10 | Knee rocker switch<br>(Function "Blowing" optional)                               |
| 3 | Trouser suspension device (option)                      | 11 | Rapid height adjustment system for waistband clamp and stretching device (option) |
| 4 | Steam iron including mounting set (option)              | 12 | Trouser waistband clamp and stretching device (option)                            |
| 5 | Working surface   | 13 | Lower buck  |
| 6 | Switch cabinet  | 14 | Safety frame  |
| 7 | Machine mounting pad                                    |    |   |
| 8 | Pedal strip   |    |   |

## 1.2. FUNCTION

The trouser top pressing machine BRI-2390/201 serves to press trouser tops by applying steam and pressure followed by a cooling phase upon completion of the trousers.

Pressing is possible in manual operation and in automatic operation. All the machine's movements are electropneumatic. The edge suction extracts the steam outside of the pressing surface. This is to prevent marks at the edges of the pressing surface.

The process cycle is controlled by the machine control.

### Process cycle:

- The garment has to be inserted and adjusted by the operator.

### Note

To facilitate the handling of the garment, a trouser suspension device is available as an option.

To stretch the waistband, the machine is equipped with a trouser waistband clamp and stretching device as an option.

- The garment is fixed on the lower buck by suction.
- The head buck is closed.
- The suction is switched off, the edge suction is switched on.
- The steam supply is switched on. Steam is admitted to the garment via the steam exhaust ports in the head and/or lower buck.
- The steam supply switches off once the pre-set.
- Due to the following suction of the lower buck, the temperature of the garment is lowered and the pressing result fixed.
- The garment may also be cooled down carefully by activating the "blowing" function.
- Once the head buck has opened, the garment is removed by the operator.

### Note

The steam iron including mounting set (option) is intended for manual refinishing.

## 1.3. TECHNICAL DATA

### Product-related data

#### Note

The machine is intended for the working of textiles only. The manufacturer will not assume any responsibility for modifications and changes which are not stated in the declaration of conformity.

### 1.3.1. Technical data of the machine

#### Dimensions and weight

Length:	1075 mm
(as an option with long front table)	1520 mm
Depth:	1060 mm
Height:	1600 mm
Weight:	approx. 250 kg

#### Power supply

Input voltage:	230 V / 115 V	1P / N / PE
Power:	0,15 kW	
Frequency:	50 / 60 Hz	
Control voltage:	24 V DC	
Protection category:	IP 43	

#### Compressed-air supply

##### Machine

Connected load:	6 bar / 0,6 MPa
Consumption:	54 l / min
Connection (1x):	8 x 1,25 mm

##### Blowing

Connected load:	6 bar / 0,6 MPa
Consumption:	416 l / min
Connection (1x):	12 x 2 mm

#### Steam supply

Connected load:	4,5 - 6 bar / 0,45 - 0,6 MPa
Consumption:	12 kg / h
Connection (1x):	3/8"



**Suction**

Connected load:	mind. 120 mbar / 0,012 MPa
Consumption:	3500 l / min
Connection (1x):	1 1/2"

**Condensate**

Connected load:	max. 0,5 bar / 0,05 MPa
Connection (1x):	3/8"

**General data**

Ambient temperature:	+ 5°C to + 45°C
Noise level:	≤ 70 dB (A)

## 1.4. SCOPE OF DELIVERY

The delivery comprises:

1. Trouser top pressing machine
  - BRI-2390/201 Positioning from front side with:

**Standard:**

- Steam head and lower buck
- Suction head and lower buck
- Edge suction head and lower buck
- Blowing lower buck
- Steam lower buck via pedal
- Suction lower buck via knee rocker switch
- Machine control **BRcompact**

**Options:**

- Steam iron including mounting set
- Suction or blowing via rocker switch (only if steam iron is available as an option)
- Blowing lower buck via knee rocker switch
- Trouser waistband clamp and stretching device
- Rapid height adjustment system for waistband clamp and stretching device
- Trouser suspension device
- Front table long version (1520 mm)
- Lamp for illumination of working area

2. Operating instructions

3. Documentation

**Note**

These operating instructions cover the maximum scope of delivery.

The individual delivery is detailed in the purchase contract.

## 2. SAFETY

### 2.1. WARNING SYMBOLS AND DANGER SIGNS

On the machine and in these operating instructions, the following designations or symbols are used for particularly important information:



Reference to external **operating instructions**



**Danger symbol** for the prevention of accidents and damages

**Note**

Request to **pay particular attention**



Symbol indicating **danger due to electric current!**



Symbol indicating danger of **hand injuries!**



Symbol indicating **danger of burn** due to hot surfaces!



The **protective conductor connection** is marked with this symbol.

### 2.1.1. Designation of the machine

The information given in these operating instructions only applies to machines with the machine number as indicated on the cover of these instructions.

The type plate with the machine number is located on the switch cabinet or the ground frame.

For extensive repairs, servicing or relocations of the machine, please contact the BRISAY service department. When enquiring or ordering in writing or on the phone, please always quote

- type of machine
- machine number
- article number of the relevant component (see chapter SPARE PARTS LISTS)

#### Address

**BRISAY-Maschinen GmbH**

Mittelweg 4

D-63762 Grossostheim-Ringheim, Germany

Phone: ++49 (0) 6026/997-0

Fax: ++49 (0) 6026/997-100

e-mail: [info@brisay.com](mailto:info@brisay.com)

[www.brisay.com](http://www.brisay.com)

Service department:

Tel: ++49 (0) 6026/997-0

Fax: ++49 (0) 6026/997-100

e-mail: [service@brisay.com](mailto:service@brisay.com)

## 2.2. SAFETY STANDARDS

The machine has been built in accordance with the German version of the regulations.

### 1. **EC Machinery Directive (2006/42/EC)**

- 1.1 EN ISO 12100-1:2003+A1:2009 Safety of machinery; basic concepts, general principles of design; Part 1: Basic terminology, methodology
- 1.2 EN ISO 12100-2:2003+A1:2009 Safety of machinery; basic concepts, general principles of design; Part 2: Technical principles
- 1.3 EN ISO 13857:2008 Safety of machinery; Safety distances to prevent danger zones being reached by the upper limbs
- 1.4 EN 349:1993+A1:2008 Minimum gaps to avoid crushing of parts of the human body
- 1.5 EN ISO 13850:2008 Safety of machinery; Emergency stop
- 1.6 EN ISO 13732-1:2008 Ergonomics of the thermal environment Part 1: Hot surfaces
- 1.7 EN 983:1996+A1:2008 Safety requirements for fluid systems and their components - Pneumatics

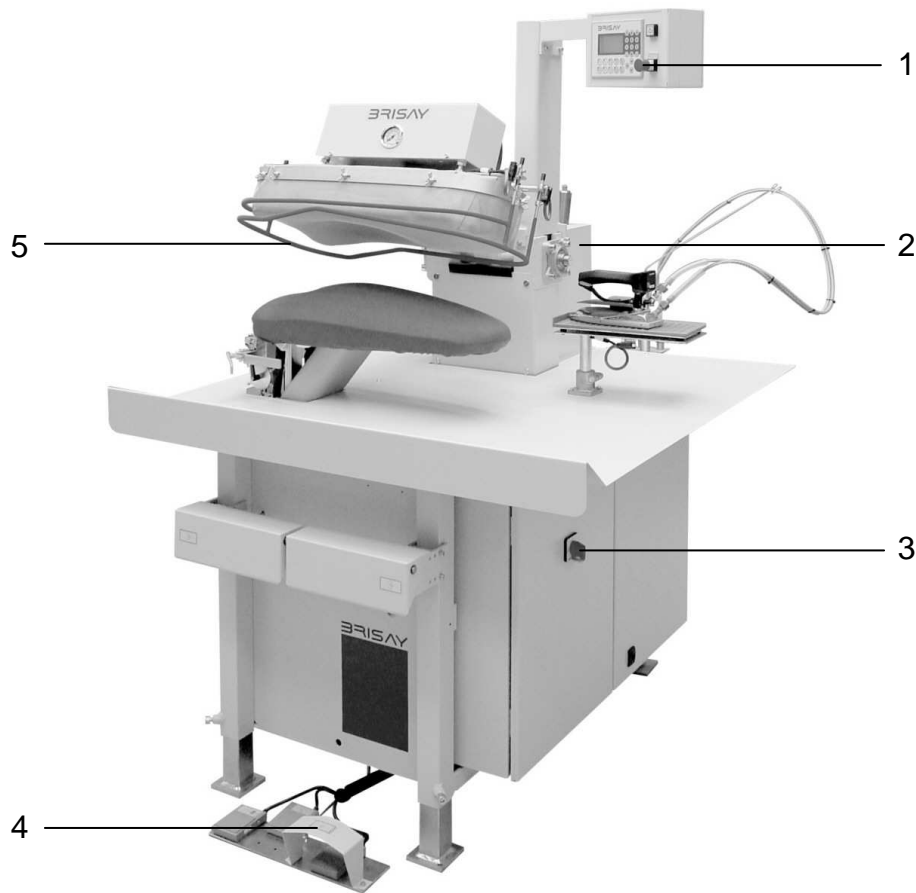
### 2. **EC Low Voltage Directive (2006/95/EC)**

- 2.1 EN 60204-1:2006+A1:2009 Safety of machinery, electrical equipment of machinery

### 3. **EC Directive EMC (2004/108/EC)**

- 3.1 EN 61000-6-2:2005, EMC, Part 6-2: Industry
- 3.2 EN 61000-6-4:2007, EMC, Part 6-4: Industry

## 2.3. BUILT-IN SAFETY SYSTEMS



III. 2, Safety systems of the machine

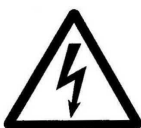
Before commissioning the machine, the following checks (**S** = visual inspection, **F** = functional inspection, **M** = gauging) have to be carried out on the safety systems at the stated intervals (**t** = daily, **w** = weekly, **m** = monthly, **j** = annually).

The machine disposes of the following safety devices:

- **Main switch (Pos. 3)**

It disconnects/connects the machine from/to the power supply and is located at the switch cabinet.

Interval	Check
w	F



In case of maintenance or repair work, the main switch has to be padlocked in the OFF position.

- **Emergency stop button (Pos. 1)**

The machine has an emergency stop button at the control panel.

Interval	Check
t	F

By pressing the emergency stop button, the following programme run is triggered:

- the head buck is raised,
- the steam exhaust is switched off.

The emergency stop button may be released by pulling.

- **Safety frame (Pos. 5)**

The safety frame is fitted with a define margin around the head buck.

Interval	Check
t	F

By activating the safety frame, the following programme run is triggered:

- the head buck is raised,
- the steam exhaust is switched off.

- **Protective hood (Pos. 2)**

The swivelling range of the cylinder is covered with a protective hood to prevent people from reaching inside.

Interval	Check
m	S

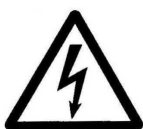
- **Hoop guard (Pos. 4)**

A hoop guard is mounted on the Start pedal to prevent the machine from being started unintentionally.

Interval	Check
m	S

- Internally, the machine control is fitted with a one-phase feed system, with a current carrying N-type conductor and a **separate earth connection** marked with a GREEN/YELLOW sheath.

Interval	Check
m	S + F + M



The electric switch cabinet is equipped with a special key. It is to be taken into safekeeping by authorised staff only.



These operating instructions are a part of the machine and have to be available to the operators at any time.

The included safety instructions must be observed.

It is strictly forbidden to put the safety devices out of service or to modify their function.

### **2.3.1. Instructions**

Operating and maintenance staff will be instructed on site by staff of BRISAY-Maschinen GmbH unless otherwise agreed in the purchase contract.

In case of questions or uncertainties, please contact BRISAY.



The operating company undertakes to introduce any new operating and maintenance staff with the same care to the operation and maintenance of the machine as well as to all safety instructions.

An appropriate training of operating and maintenance staff at BRISAY is recommended. Please contact the BRISAY service department for further information on training opportunities.



## 2.4. SAFETY MEASURES

(to be carried out by the operating company)

The operating company must

- instruct its operating and maintenance staff in the handling of the machine's safety devices,
- monitor the observance of safety measures and
- ensure that unauthorised staff (i.e. no operating or maintenance staff) is prevented from entering the danger zone of the machine.

The statutory minimum age for operating and maintenance staff must be observed.

These operating instructions must be kept for further use.

The prescribed frequency of inspection and control measures must be complied with.

In these operating instructions, the operations to be carried out are described in such a way that

- an **instructed person** may understand the instructions given in the chapter OPERATION,
- an **authorised person** may understand the instructions given in the chapter MAINTENANCE,
- a **qualified person** may understand the instructions given in the chapters TRANSPORT, INSTALLATION, SETTING-UP, MAINTENANCE.

In the chapter REMEDY OF FAULTS / ELIMINATION OF DEFECTS, the person in charge is stated depending on the kind of fault.

### **Instructed person**

A person who has been introduced to the tasks assigned to him/her and the possible dangers in case of improper handling, who has been trained, if necessary, and who has been instructed in the necessary safety devices and safety measures.

**Authorised person**

A person who operates the machine at a regular basis and who has been instructed by BRISAY-Maschinen GmbH in particular in setting-up and servicing the machine unless otherwise agreed in the purchase contract.

**Qualified person**

A person who is capable of judging tasks assigned to him/her and of identifying dangers due to his/her technical training, knowledge and experience as well as knowledge of the relevant industrial standards.

**The definition follows EN 60204-1:2006+A1:2009.**

## 2.5. SAFETY TESTS

carried out by BRISAY-Maschinen GmbH in its plant:

- Airborne sound measurement
  - according to the directive on machines, appendix 1 (Pos. 1.7.4/f)
- Control and inspection according to EN 60204-1:2006+A1:2009 (Chapter 19.1 – 19.6)
  - check if electrical equipment and technical documentation match
  - continuous connection of the protective conductor system
  - insulation resistance controls
  - voltage controls
  - protection against residual voltage
  - functional inspection of the electrical devices, in particular the safety systems.

### 3. POTENTIAL DANGERS

The safety systems and safety instructions described in these operating instructions must be observed.

The machine is operated from the front.

The operator's working area and the access to the machine must be kept free of tools and other devices. The working area at and around the machine must be clean and accessible.

Never place tools or other objects on the machine. Due to vibrations, such objects may fall into the machine and cause severe damage.



The closing movement of the head buck may cause **bruises and burns!**

Pay attention to the **risk of burns** when handling the steam iron (option).

Particular care must be taken when setting up and servicing the machine since the risk of **burns and bruises** is increased.

When setting-up the machine

- protective gloves must be worn when handling heated parts of the machine to avoid **burns** and
- safety boots must be worn to avoid **bruises**.

There is an increased **risk of burns** with all parts connected to steam and condensate such as buck shapes, buck shape supports, hoses, hose connections, steam valves, steam distributors, steam admission units etc.



Never leave the machine unattended. The **fire risk** increases, if the head buck is closed over a longer period during operation.

Do not wear open, long hair, loose clothes or jewellery. It increases the **risk of injury** because they might get caught in the machine or be subject to heat.



When carrying out installation work above body height, the provided ladders or service platforms must be used or any other ladder meeting the required safety standards. Do not climb on components of the machine - **danger of falling!** A safety harness should be worn when carrying out maintenance work in greater heights.

Welding, burning, and grinding work on the machine must only be carried out, if this work has been explicitly approved. There might be a **risk of fire and explosion!**

Remove any dust and inflammable material from the machine and the area around it and see to sufficient ventilation before carrying out welding, burning and grinding work - **risk of explosion!**

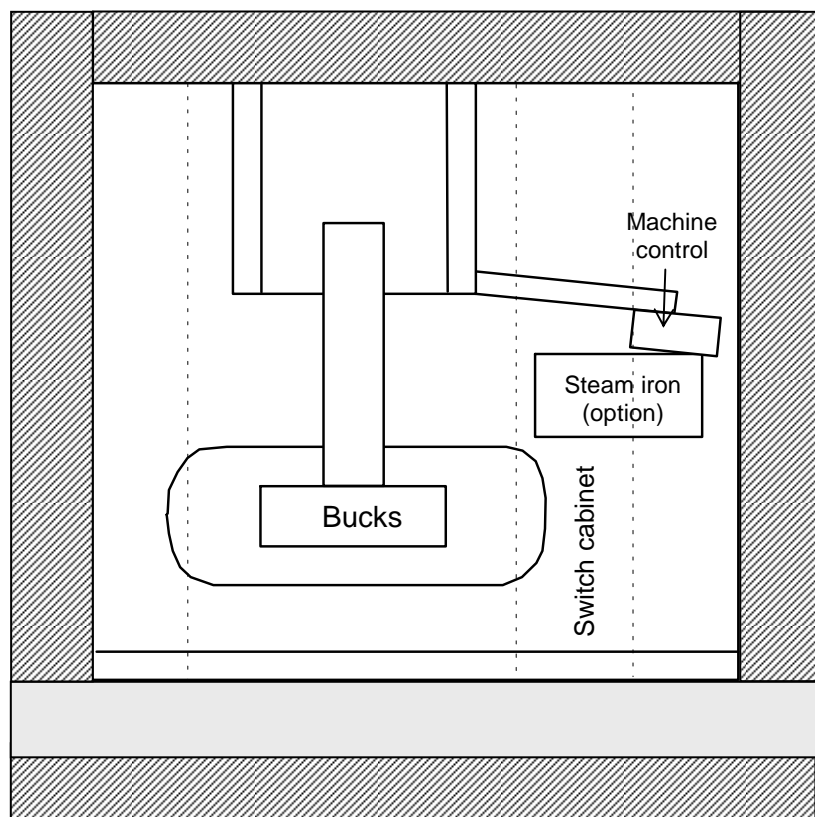
### 3.1. DANGEROUS AREAS OF THE MACHINE

The operator has access to the following parts of the machine:

**Operating area**



**Dangerous area** during commissioning, servicing, maintenance and repair



III. 3, Dangerous areas of the machine



The dangerous area extends 1 m around the machine.

**The risk of injury is increased during maintenance work!**

## 3.2. DUTIES OF THE OPERATING COMPANY

**Note**

In the EEA (European Economic Area), the operating company must observe and comply with the national implementation of the general directive (89/391/EC) as well as the relevant individual directives, in particular with the directive (89/665/EC) on minimum requirements for safety and health when using working appliances provided by the employer as amended.

The operating company has to obtain the local operating permit and observe the conditions imposed.

Moreover, the company has to comply with the local provisions on

- the safety of staff (safety regulations)
- the safety of working appliances (protective clothing and maintenance)
- the disposal of products (waste management law)
- the disposal of materials (waste management law)
- cleaning (cleaning agents and disposal)
- as well as with environmental regulations.

**Note**

Should the operating company set up and install the machine itself, it must ensure that the local regulations e.g. on electric and pneumatic connections are complied with before commissioning the machine.

### 3.3. OPERATING AND MAINTENANCE STAFF

Each person (operating and maintenance staff only) who is engaged in installing, commissioning, operating or maintaining the machine has to be aware of the risks involved when handling the machine.

This is the case if

- the machine is operated, serviced and maintained by trained and authorised persons. Staff that is being trained or instructed in operating the machine or is receiving general training is only allowed to operate the machine when being supervised by an experienced person!
- the responsibility is clearly defined and observed should the machine be operated by several people in order to avoid uncertainties with regard to safety,
- the disconnect procedures indicated in the operating instructions are observed when carrying out work (operation, maintenance, repair etc.),
- unauthorised people are kept away from the working range of the machine,
- the compliance with the operating instructions regarding the awareness of the risks involved when working at the machine is checked on a regular basis,
- the operating company operates the machine in a mechanically faultless condition only,
- in case of malfunctions, the machine is stopped and locked immediately! The relevant person/department has to be informed and the fault has to be remedied immediately by those in charge.
- the operator informs the department/person in charge immediately on any changes observed at the machine which might impair the safety of the machine.

### 3.4. DISCONNECT PROCEDURES



Before starting with cleaning, maintenance or repair work (by qualified staff only), the following disconnect procedure must be observed:

1. Cut off steam supply
  - Shut off valve for steam supply.
  - Depressurise steam system by activating machine start.
  - Make sure that no steam emerges from the machine.
2. Switch off machine from power supply
  - Set main switch on switch cabinet to "0".
  - Padlock main switch to prevent the machine from being switched on again.
  - Remove power plug.
  - Make sure that no current is carried.
3. Cut off compressed-air supply
  - Shut off compressed-air valve.
  - Remove air from compressed-air lines.
  - Attention!** Head buck is lowered.
  - Check if the machine without pressure.

In case of non-observance, the life of staff may be in danger.



## 4. TRANSPORT AND PACKING

Although machines of BRISAY-Maschinen GmbH are carefully checked and packed before being delivered, damages during transport may not be ruled out.

### 4.1. DELIVERY

(also applies to spare parts and return parts)

#### Receiving inspection

- Check delivery for completeness using the delivery note!
- Check delivery for damages (visual inspection).

#### Objections

- Should the goods have been damaged during transport contact the carrier immediately and
- keep the packing (for a possible examination by the carrier or for return shipment)!

#### Packing for return shipment

Use the original packing and the original packing material, if possible.

If both cannot be used

- engage a packing company with qualified staff,
- place the machine on a pallet and fasten it with a securing device. (The pallet has to be designed for the weight of the machine.)

For questions on packing and securing devices, please contact BRISAY-Maschinen GmbH.



Make sure that there is no water in the steam pipe system since this might cause damage to the machine.

Add desiccants when packing electric parts.

#### Land shipment

The machine will be delivered by truck or train.

### Overseas shipment

In case of overseas shipment, the machine will be welded into a plastic sheet and covered with a drying agent. The machine will be shipped in a sea freight transport container.

The drying agent is designed for a storage of 3 months and has to be renewed if the machine is stored for longer time.

### Note

#### Transport insurance

On prior consultation, a transport insurance may be effected before shipment.

### Storage conditions

A closed and dry room with a room temperature between +5 °C and +45 °C.

The packing of the machine and the spare or return parts is designed for a storage of 3 months upon delivery.

## 4.2. UNLOADING AND TRANSPORT TO THE PLACE OF INSTALLATION



Make sure that the lifting device is designed for the weight of the machine. Chains, ropes, hooks, lifting points and cross members have to be designed for the weight of the machine as well.

Should suitable lifting devices not be available, a transport company has to be engaged with unloading and transporting the machine.

The machine must be secured before being transported (see chapter 4.3).

Pay attention to the machine's centre of gravity (see page 24, III. 4).

Avoid shocks and pay attention to hoses on the floor since there is a **risk of injury and machine damages**.

It is forbidden to stay under suspended loads!

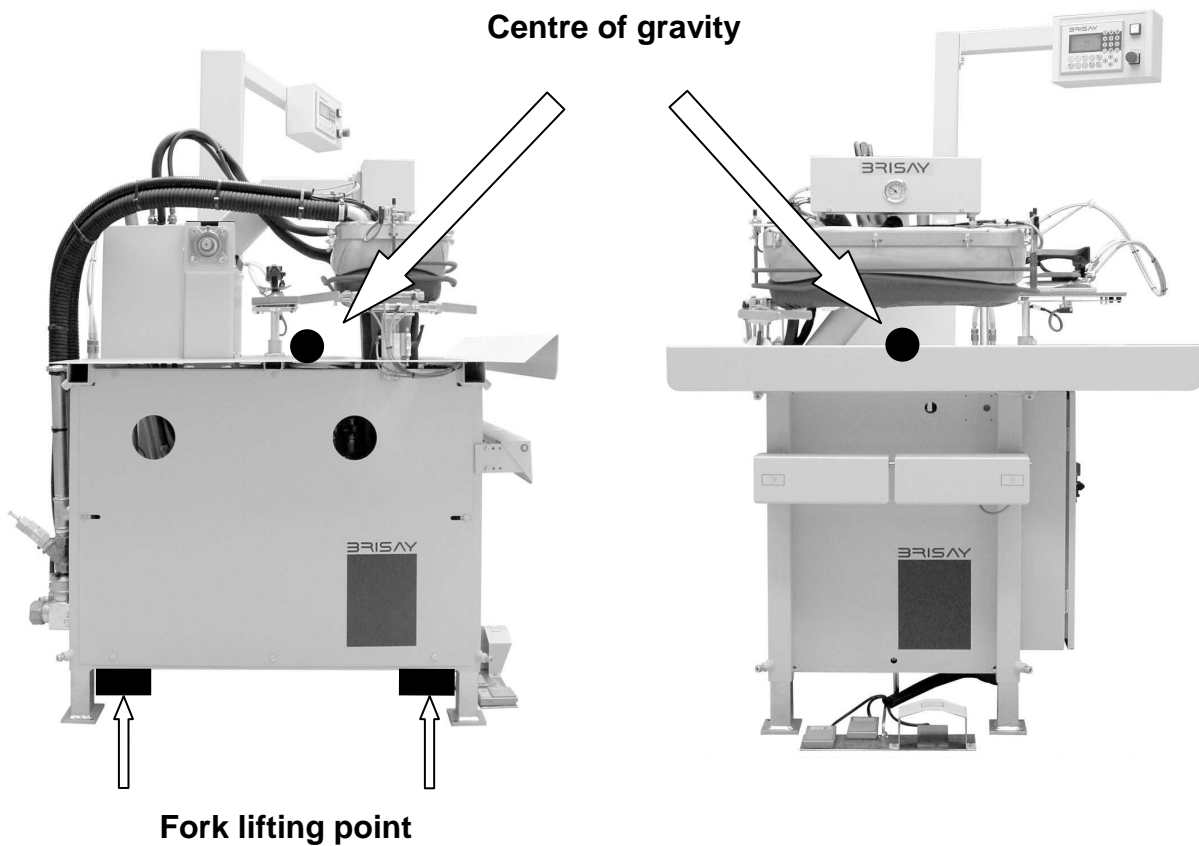
If the machine is delivered in a transport container (ISO container), the information required for unloading (lifting points, crane load) is marked on the container.

When unloading, proceed as follows:

- Unload the machine from the truck using the appropriate means of transport.
- Remove transport material.
- Withdraw all loose and additional parts and transport them separately.
- Lift the machine and transport it to the place of installation.

**In case of subsequent deliveries or repairs**, the machine must only be transported by qualified staff using the appropriate means of transport.

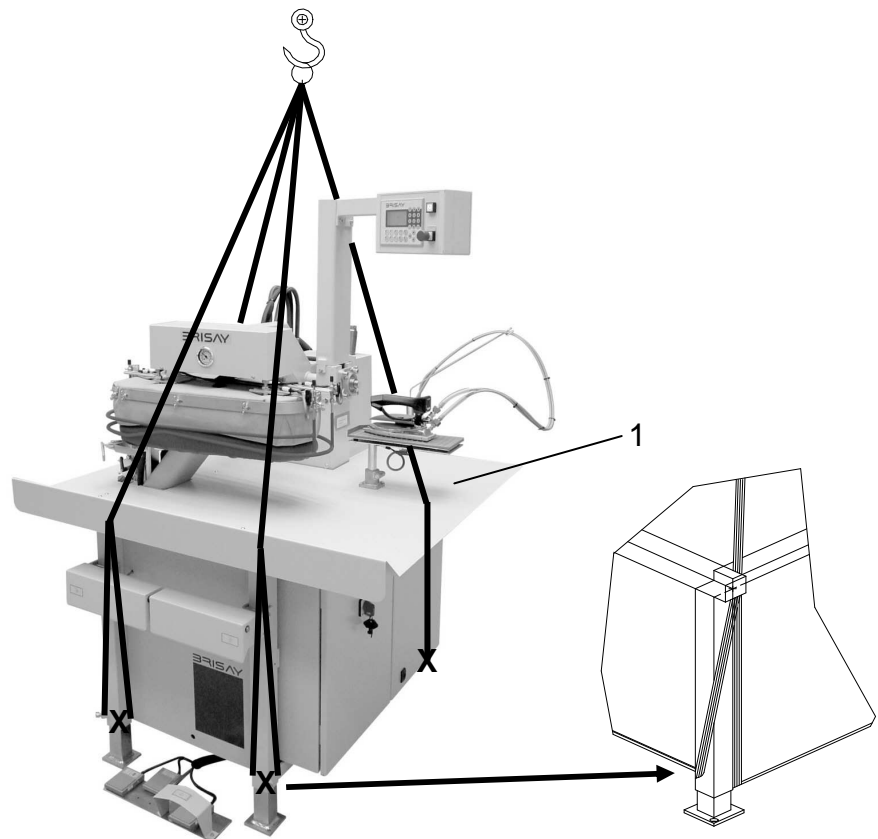
### Transport by forklift truck



*Ill. 4, Transport by forklift truck, centre of gravity, lifting points*

- Lift the machine by means of a forklift truck.
  - Adjust the width of the fork the ground frame dimensions.
  - Make sure that the fork reaches entirely under the machine and, for safety reasons, comes out on the other end.
  - Make sure that the pedal strip, cables, hoses etc. are not damaged during transport.

## Transport by crane

*Ill. 5, Transport by crane*

- Remove all loose additional machine parts and transport them separately.
- Remove working surface (Pos. 1) and trouser suspension device (option).
- Fasten ropes at the four machine mounting pads (see Ill. 5).
- Lift the machine and transport it to the place of installation.

### 4.2.1. Lifting points

Subassembly	Weight	Centre of gravity	Lifting points	Lifting device
Entire machine	approx. 250 kg	see page 24, Ill. 4	below the ground frame (see Ill. 4)	forklift truck
		see page 24, Ill. 4	below the ground frame at the machine mounting pads (see Ill. 5)	crane, ropes, hooks

### 4.3. TRANSPORT SAFEGUARD

Before being transported, the machine has to be secured as follows:



1. Cut off steam supply.
  - Shut off valve for steam supply.
  - Depressurise steam system by means of machine start.
  - Make sure that no steam emerges from the machine.
2. Power supply and compressed-air supply remain switched on.



Make sure that head and lower buck as well as all parts in connection with steam and condensate are cool, since there is a **risk of burn!**



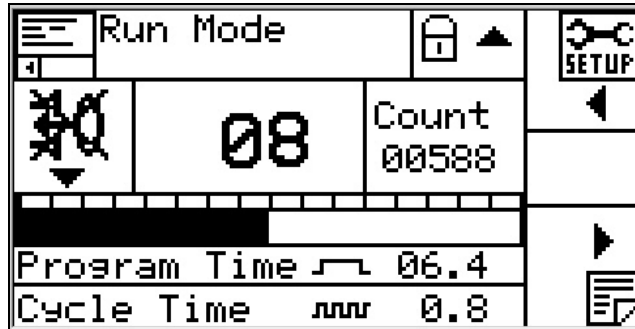
The machine control **BRcompact** is described in a separate technical manual.

3. Once the machine is switched on, the start screen is displayed.



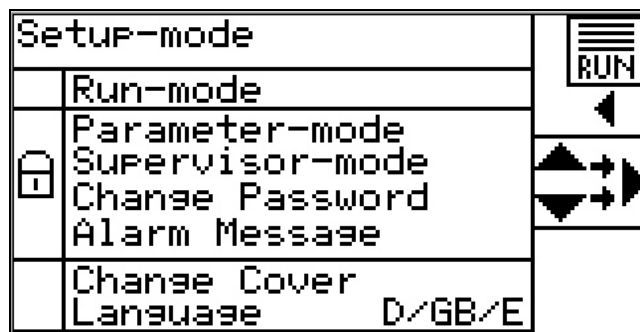
III. 6, Start screen

4. Change to operating mode by pressing the arrow key ◀.



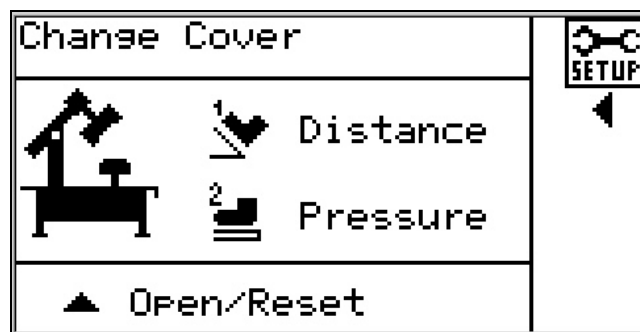
III. 7, Operating mode

5. Change to setup mode by pressing the arrow key ◀.



III. 8, Setup mode

6. Move cursor to "Change cover" by pressing the arrow key ▼. Display selected screen by pressing the arrow key ▶.



III. 9, Change cover

**see page 44, III. 19, Pos. 3**

7. Press pedal "Start" until the 1<sup>st</sup> step (first contact point). The head buck closes at a distance.
8. Press pedal "Start" until the 2<sup>nd</sup> step (second contact point). The head buck closes with the preset pressing pressure.



9. Lock pivoting cylinder with securing device (see Pos. 1).



*Ill. 10, Transport safeguard*

10. Cut off compressed air supply and remove air from compressed-air lines through maintenance unit.
11. Set main switch on switch cabinet to "0" and remove power plug.
12. Remove supply lines for compressed air, suction, steam and condensate drain provided by the customer.
13. Pack steam iron (option).



## 5. INSTALLATION

### 5.1. SETTING-UP

The machine will be set up, assembled and installed by qualified staff of BRISAY-Maschinen GmbH or by qualified staff provided by the customer. In case of subsequent deliveries, the subassemblies must be disassembled or assembled by qualified staff only.

- Make sure that the static of the building is designed for the weight of the machine.
- The machine has to be set up on an even surface.
- Energy supply (electric and compressed-air connection, connection for steam supply) as well as the connection for the condensate and the suction must be provided.
- Make sure that there is enough space around the machine to carry out maintenance work.

**Note**

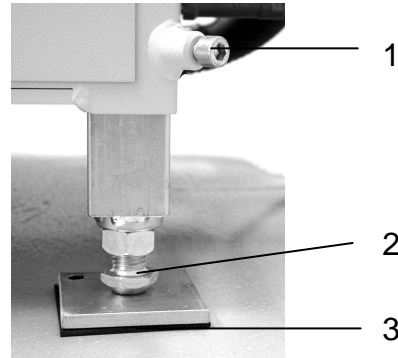
If the place of installation does not comply with the intended use, rebuilding measures must be taken to obtain a higher level of protection (see chapter 1.3, Technical data).

#### Adjusting

Ergonomic guidelines	
Men and women working in upright position	Women working in upright position
Working height: floor – upper edge lower buck ca. 113 cm	Working height: floor – upper edge lower buck ca. 103 cm

- Move the forks of the truck underneath the machine (see chapter 4 TRANSPORT). Lift the machine to the desired working height (see“Ergonomic guidelines”).

- Place the supplied rubber plates (Pos. 3) under the four machine mounting pads.
- Open check screws (Pos. 1) and lower machine mounting pads to the ground and fasten check screws again.



*Ill. 11, Adjusting height*

- After having put down the machine, place a water level on the frame of the machine and adjust it by moving the machine mounting pads in X and Y direction.
- Use adjustable machine mounting pad to level out uneven patches (Pos. 2).
- Mount working surface and trouser suspension device (option), if necessary.
- Mount the pedal strip in accordance with the operating position.
- Remove steam iron (option) from packing and place it on the stand.

**Note**

Degrease all the guide rods and/or linear guides before commissioning the machine.

## 5.2. INSTALLATION

### Connection of electric supply

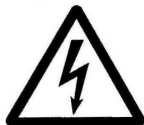
- Current is supplied via a safety plug with earthing.



Pay attention to the input voltage!

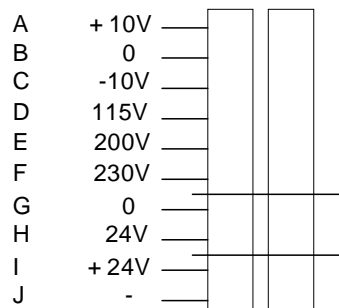
A socket is installed in the switch cabinet which is current-carrying even if the main switch is switched off.

The standard model of this machine is designed for an input voltage of **230V**. If the voltage provided at the place of installation is higher or lower, the transformer T1 has to be connected in the switch cabinet of the machine.



**Work on electric supply lines must only be carried out by qualified staff.**

Remove power plug on the switch cabinet before opening the terminal box. **Danger to life !**



	A	B	C	D	E	F
105V			X	X		
115V		X		X		
125V	X			X		
190V			X		X	
200V		X			X	
210V	X				X	
220V			X			X
230V		X				X
240V	X					X

III. 12, Connection of power supply

**Compressed-air connection**

- Compressed air machine control  
Connect compressed-air connection“machine control“ (Pos. 3) to the compressed-air supply provided by the customer.
- Compressed air blowing  
Connect compressed-air connection“Blowing“(Pos. 1) to the compressed-air supply provided by the customer.

**Connection for suction**

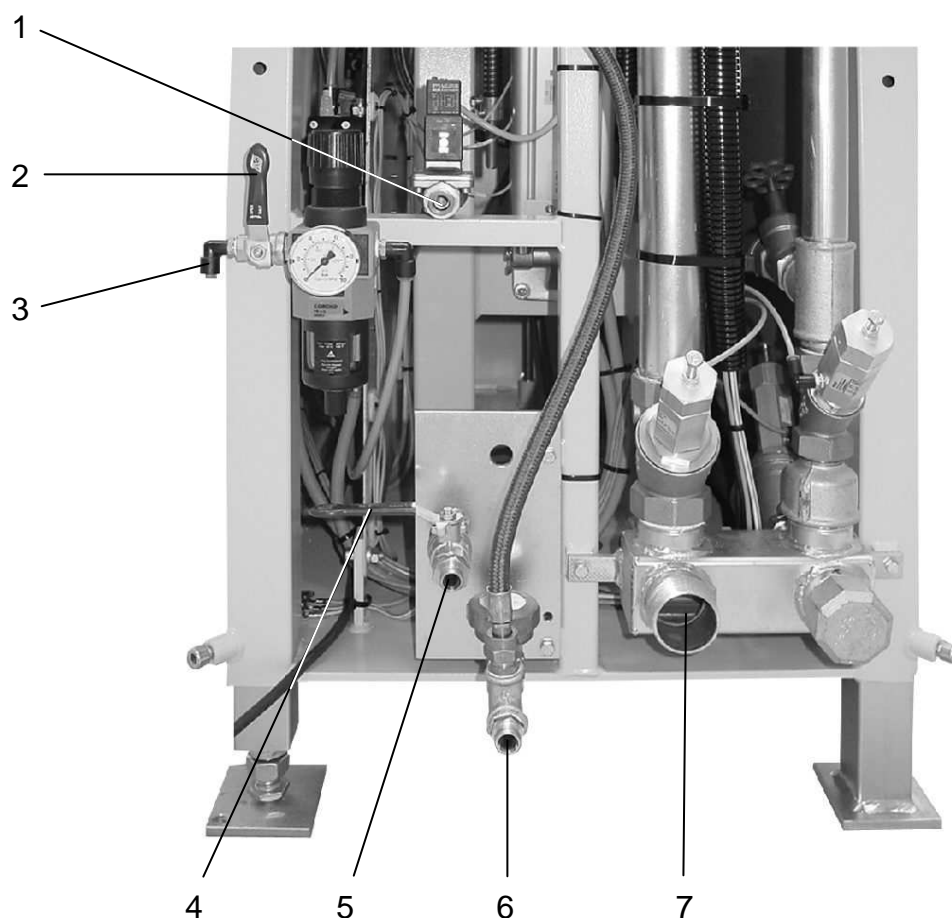
- Connect suction tubes (Pos. 7) to the appropriate suction provided by the customer.

**Connection for condensate drain**

- Connect condensate drain (Pos. 6) to the appropriate supply pipe of the customer.

**Connection of steam supply**

- Connect steam connection of the machine (Pos. 5) to steam supply of the customer.



*Ill. 13, Supply connections at the back of the machine*

**Note**

The connection data are detailed in chapter 1.3 TECHNICAL DATA.

To connect the machine properly, we recommend the original connections supplied by BRISAY-Maschinen GmbH (optional).

Should the operating company set up and install the machine itself, it must ensure that the local regulations e.g. on electric and pneumatic connections are complied with before commissioning the machine.

### 5.3. COMMISSIONING

When commissioning the machine, proceed as follows:



1. Remove transport safeguard (see page 29, Ill. 10, Pos. 1).

2. Open shut-off valve of the compressed-air“machine control“**slowly** (see page 34, Ill. 13, Pos. 2).



The head buck is raised.

3. Switch on the main switch at the switch cabinet (see page 41, Ill. 17, Pos. 3).
4. Release emergency stop button (see page 43, Ill. 18, Pos. 2) by pulling it.
5. Press reset button (see page 43, Ill. 18, Pos. 1).
6. Open shut-off valve of the compressed-air supply“Blowing“**slowly** (see page 34, Ill. 13, Pos. 1).
7. Open condensate shut-off valve at the customer’s.
8. Open shut-off valve for steam supply **slowly** (see page 34, Ill. 13, Pos. 4).
9. If necessary, adjust steam and suction valves (see chapter 5.3.1 + chapter 5.3.2).
10. Set steam iron (option, see chapter 5.3.3).



### 5.3.1. Setting instructions steam valve



Setting must only be carried out by a **qualified person** (definition see chapter 2.4). This person must make sure that it is not possible to start the machine when setting it.



Ill. 14, Steam valve

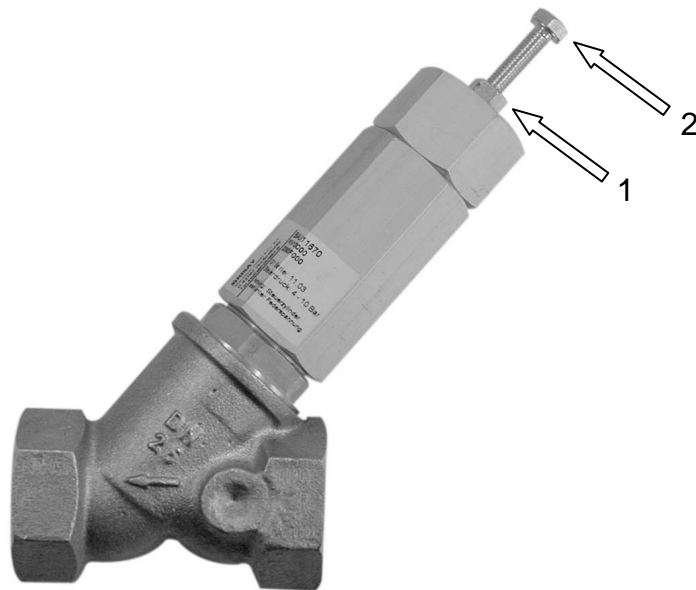
Turn setting screw:

- to the **right** to **reduce** the amount of steam,
- to the **left** to **increase** the amount of steam.

### 5.3.2. Setting instructions suction valve (one stage)



Setting must only be carried out by a **qualified person** (definition see chapter 2.4). This person must make sure that it is not possible to start the machine when setting it.



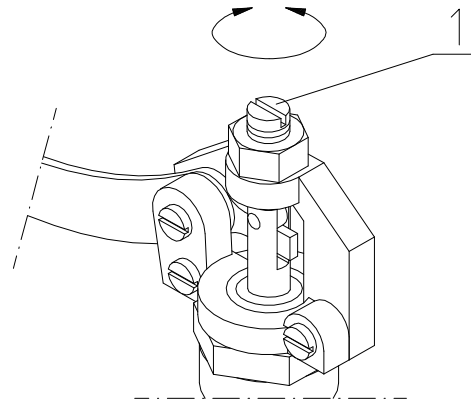
*Ill. 15, Suction valve (one stage)*

1. Release check nut (Pos. 1).
2. Turn setting screw (Pos. 2):
  - to the **right** to **reduce** the amount of suction,
  - to the **left** to **increase** the amount of suction.
3. Tighten check nut (Pos. 1).

### 5.3.3. Setting of pressing iron



There is an increased **risk of burns** with all parts connected to steam and condensate!



III. 16, Steam setting of pressing iron

The amount of steam admitted from the sole of the iron can be adjusted.

1. To increase the steam volume, loosen the plastic nut on top of the valve and turn the adjustment screw anticlockwise (Pos. 1).
2. If the adjustment screw is turned clockwise, the steam emission is reduced.
3. Retighten the adjustment screw with the check nut after each adjustment.

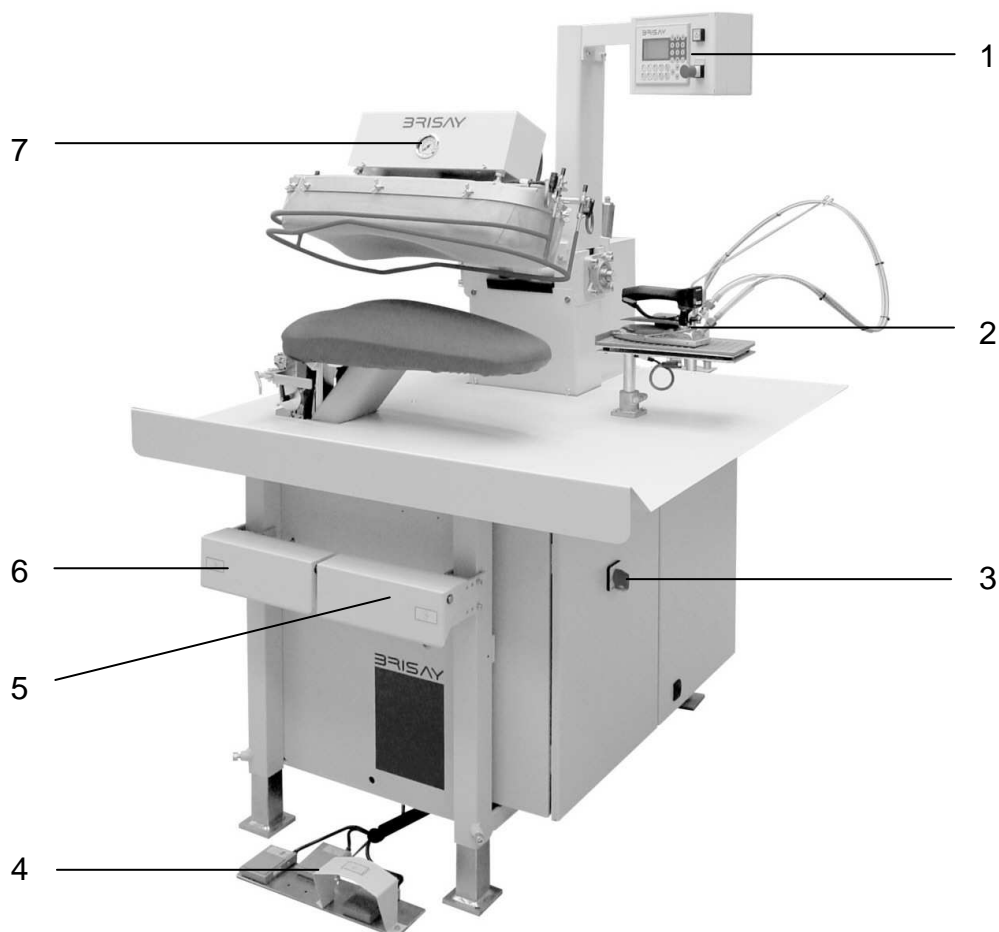
#### Note

Please note that with this adjustment only serves to control the amount of steam emitted from iron's sole. This has nothing to do with the steam pressure adjustment of the steam supply.



## 6. OPERATION

### 6.1. OPERATOR'S CONTROL AND DISPLAY



III. 17, Operator's controls and display

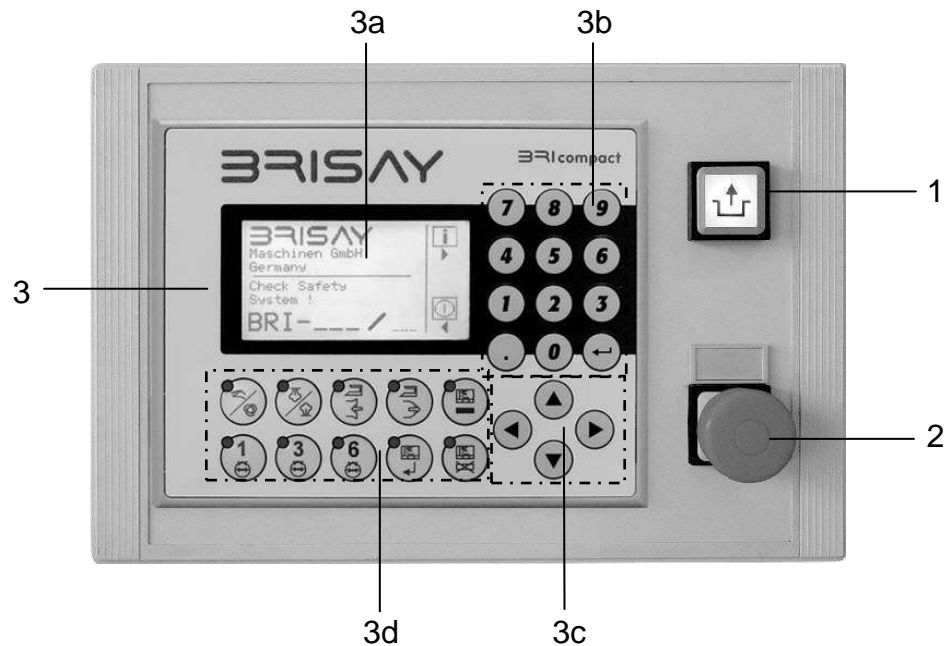
- 1 Control panel with machine control** (see chapter 6.1.1)
- 2 Steam iron (option)**  
By manipulating the pressure lever, the steam supply is activated.
- 3 Main switch**  
The main switch disconnects/connects the machine from/to the power supply.



In case of maintenance and repair work, the main switch has to be padlocked in the OFF position.

- 4 Pedal strip** (see chapter 6.1.2)
- 5 Knee rocker switch "Suction"**  
By pressing the knee rocker switch, the function "Suction" is activated and remains active as long as the knee rocker switch is pressed.
- 6 Knee rocker switch "Blowing" (option)**  
By pressing the knee rocker switch, the function "Blowing lower buck" is started and the head buck opens at a distance. The function "Blowing" remains active as long as the knee rocker switch is pressed.
- 7 Pressing pressure head buck** (manometer)  
Display of the current pressing pressure of the head buck (pressure range: 0 – 6 bar)

## 6.1.1. Control panel with machine control



Ill. 18, Control panel



### 1 Release (button)

By pressing the button, the machine control is activated and the button lights up.



### 2 Emergency stop button (mushroom-headed heavy-duty push-button)

By pressing the emergency stop button, the following programme run is triggered:

- head buck is raised,
- steam exhaust is switched off.

The emergency stop button may be released by pulling.

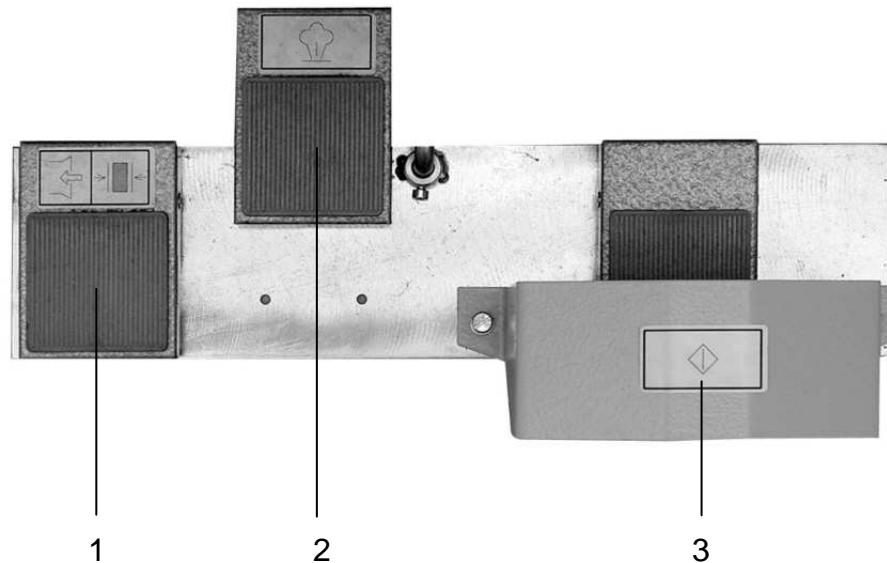
### 3 Machine control **BRlcompact**

- Display (Pos. 3a)
- Numeric pad (Pos. 3b)
- Arrow keys (Pos. 3c)
- Function keys (Pos. 3d)



The machine control **BRlcompact** is described in a separate technical manual.

## 6.1.2. Pedal strip



Ill. 19, Pedal strip  
(with option trouser waistband clamp and stretching device)



### 1 Suction On

Short tap  
(first time < 0,4 s)

- When tapping the pedal for the first time, the suction is switched on.

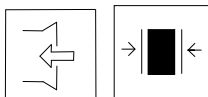
The suction is switched off automatically with the start of the programme.

Short tap  
(second time < 0,4 s)

- With the second short tap on the pedal, the suction is switched off manually.

Long activation  
(> 0,4 s)

- The suction is switch on and remains active as long as the pedal is pressed.



### 1 Suction On / Stretching

(with option trouser waistband clamp and stretching device)

First long activation

- The trouser waistband clamp closes.

Release pedal

- The stretching device is activated and the waistband is stretched.



- Second long activation - The waistband clamp and stretching device are reset to home position.
- Short tap (first time < 0,4 s) - When tapping the pedal for the first time, the suction is switched on.  
The suction is switched off automatically with the start of the programme.
- Short tap (second time < 0,4 s) - With the second short tap on the pedal, the suction is reset.



## 2 Steam lower buck

By pressing the pedal, the steam supply is switched on manually and remains active as long as the pedal is pressed.



## 3 Start

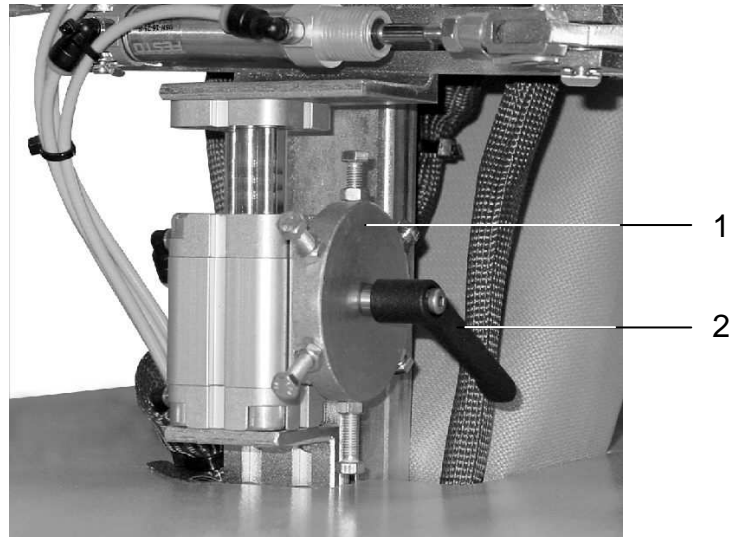
### Manual operation

- Long activation until the first step (first contact point) - The head buck carries out distance pressing; the steam supply is switched on.
- Long activation until the second step (second contact point) - The head buck closes with the pre-set pressing pressure.

### Automatic operation

With a short tap on the pedal (< 0.4 s), the operating cycle is started.

## 6.2. HEIGHT ADJUSTMENT FOR WAISTBAND CLAMP AND STRETCHING DEVICE



*III. 20, Height adjustment*

To adjust the height, proceed as follows:


- Release claming lever (Pos. 1).
- Turn setting wheel (Pos. 2) to desired height.
- Lock setting wheel with claming lever (Pos. 1).

### 6.3. STARTING THE MACHINE

- Switch on the main switch (see page 41, Ill. 17, Pos. 3).
- Release emergency stop button (see page 43, Ill. 18, Pos. 2) by pulling it.
- Press reset button (see page 43, Ill. 18, Pos. 1).
- The start screen is displayed:



Ill. 21, Start screen

- Check safety devices.
- Change to operating mode by pressing the arrow key .

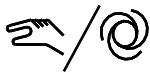
## 6.4. PRESSING IN MANUAL OPERATION



Pay attention to the potential dangers indicated in chapter 3 when operating the machine.



The machine control **BRcompact** is described in a separate technical manual.



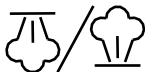
- Press function key “Operating modes” and select manual operation. LED display lights up.



- Use function keys to select desired pressing pressure. LED display of the selected function key lights up. Check pressing pressure on the screen (see page 49, Ill. 22, Pos. 1).

### Note

To select a pressing pressure of 0 bar, press function key of active pressure level a second time. All LED displays of the standard pressure levels are switched off.



- If necessary, press function key to switch steam on or off.

Standard setting

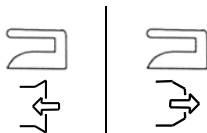
Steam head buck on  
LED display is switched off

First activation

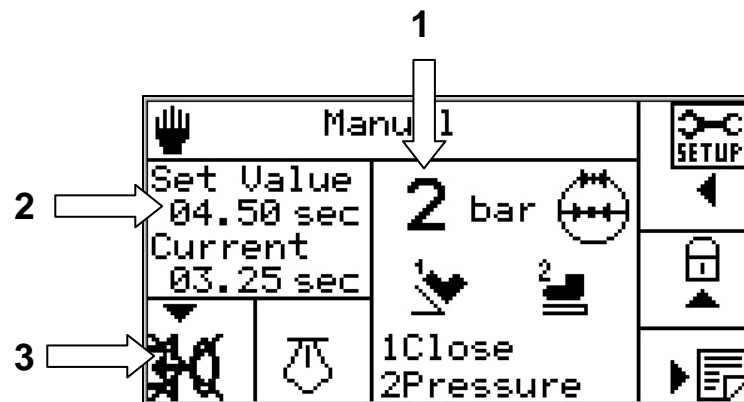
Steam lower buck on  
LED display lights up

Second activation

Steam head and lower buck on  
LED display lights up



If necessary, switch on desired function as an option by pressing function keys “Suction steam iron” or “Blowing steam iron”. LED display of selected function key lights up.



III. 22, Manual operation

- Use numeric pad to enter steaming time of head buck (Pos. 2) and confirm with “ENTER”.
- If necessary, switch on or off edge suction head buck (Pos. 3) by pressing arrow key (▼).
- Place the garment on the lower buck and align it.

**see page 44, III. 19**

#### Note

Only with optional trouser waistband clamp and stretching device

- Press pedal “Suction on” / Stretching” (Pos. 1) until the trouser waistband clamp is closed.
- Release pedal “Suction on / Stretching” (Pos. 1). The trouser waistband is being stretched.
- If necessary, tap on pedal “Suction on” (Pos. 1) shortly (< 0.4 s). The garment is fixed on the lower buck by suction.
- Press pedal “Start” (Pos. 3) until the 1<sup>st</sup> step (first contact point). The head buck closes at a distance.
- Press pedal “Start” (Pos. 3) until the 2<sup>nd</sup> step (second contact point). The head buck closes at the preset pressure level as long as pedal is activated.

**Note**

Once the head buck is closed, the preset steaming time starts running.

Manual steam supply to the lower buck is activated by pressing the pedal "Steam lower buck" (option, Pos. 2).

- Once the steaming time has elapsed, activate
  - the suction by pressing the pedal (see page 44, Ill. 19, Pos. 1) or
  - the suction by pressing the knee rocker switch (see page 41, Ill. 17, Pos. 5) or
  - the blowing by pressing the knee rocker switch (see page 41, Ill. 17, Pos. 6).

The functions are active as long as the pedal or the knee rocker switch is pressed.

**Note**

If the function "Blowing" is activated, the head buck opens at a distance and the suction head buck is switched on. Steaming is switched off if the steaming time has not elapsed.

The position "Distance head buck" is maintained until the function "Blowing" is completed, even if the start pedal is no longer pressed.

- Remove garment from the lower buck.

## 6.5. PRESSING IN AUTOMATIC OPERATION



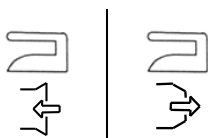
Pay attention to the potential dangers indicated in chapter 3 when operating the machine.



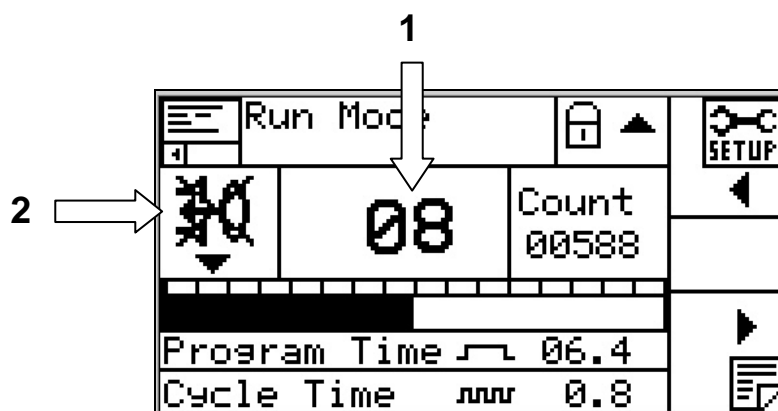
The machine control **BRcompact** is described in a separate technical manual.



- Change to automatic operation.
  - Press function key "Operating modes" and select automatic operation. LED display is switched off.
  - If necessary, change to screen "Operating mode" to change mode of operation (see technical manual, chapter 6.1).



- If necessary, switch on desired function as an option by pressing function keys "Suction steam iron" or "Blowing steam iron". LED display of selected function key lights up.



III. 23, Track-RUN

- Select desired programme (Pos. 1). Use numeric pad to enter programme number and confirm with ENTER.
- If necessary, switch on or off edge suction head buck (Pos. 2) by pressing arrow key (▼).
- Place the garment on the lower buck and align it.

see page 44, Ill. 19

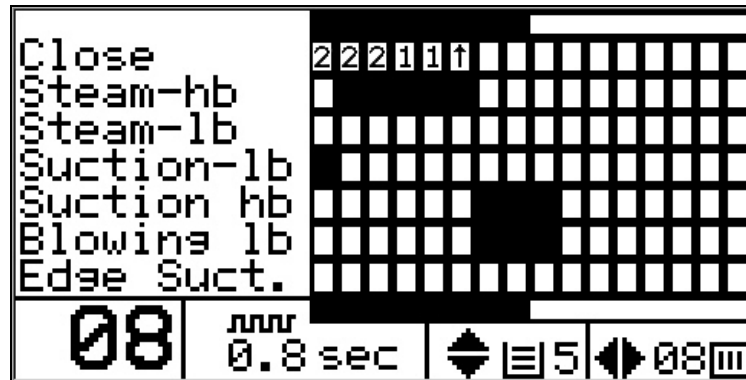
**Note**

Only with optional trouser waistband clamp and stretching device

- Press pedal "Suction on" / Stretching" (Pos. 1) until the trouser waistband clamp is closed.
  - Release pedal "Suction on / Stretching" (Pos. 1). The trouser waistband is being stretched.
- 
- If necessary, tap on (< 0,4 s) pedal "Suction on" (Pos. 1). The garment is fixed on the lower buck by suction.
  - Tap on (< 0,4 s) pedal "Start" (Pos. 3) an. The head buck closes. The programme starts according to the pre-set parameters.
  - Remove garment from the lower buck once the operating cycle has been completed.



### 6.5.1. Overview of the function tracks



Ill. 24, Screen assignment (Example)

#### Verify tracks

Track 1	Close	controls head buck. Programming of up to six pressure levels (0 – 6 bar) possible.
Track 2	Steam head buck	activates steam of head buck
Track 3	Steam lower buck	activates steam of lower buck
Track 4	Suction lower buck	activates suction of lower buck
Track 5	Suction head buck	activates suction of head buck
Track 6	Blowing lower buck	activates function“Blowing“
Track 7	Edge suction	activates edge suction of head and lower buck

## 6.6. SWITCHING OFF THE MACHINE

- Switch off main switch (see page 41, Ill. 17, Pos. 3).



## 7. MAINTENANCE



Maintenance must only be carried out by an **authorised person** (definition see chapter 2.4 SAFETY MEASURES).

This authorised person will be instructed on site by staff of BRISAY-Maschinen GmbH unless otherwise agreed in the purchase contract.

**Do not forget that the risk of injury is increased during maintenance.**

### 7.1. CHANGING OF PRESSING COVERS

The wear of the pressing cover depends on the number of parts being pressed as well as on the pressing parameters. We recommend that pressing covers be changed at least every three months.



Use the appropriate original cover material of BRISAY-Maschinen GmbH, since cover material, cover composition and fitting may not be guaranteed otherwise.

When using non-original cover materials, take into account the cover materials and cover composition recommended by BRISAY-Maschinen GmbH. Templates are by BRISAY-Maschinen GmbH. Templates are available at BRISAY's.

The manufacturer shall not be liable for damages caused by non-observance. The user alone bears the risk.

Observe the local regulations when disposing of the worn pressing covers.

When ordering material, please always quote BRISAY machine number and shape number (see cover ).

**Address**

**BRISAY-Maschinen GmbH**

Mittelweg 4

D-63762 Grossostheim-Ringheim, Germany

Phone: ++49 (0) 6026/997-0

Fax: ++49 (0) 6026/997-100

e-mail: [info@brisay.com](mailto:info@brisay.com)

[www.brisay.com](http://www.brisay.com)

Service department:

Tel: ++49 (0) 6026/997-0

Fax: ++49 (0) 6026/997-100

e-mail: [service@brisay.com](mailto:service@brisay.com)



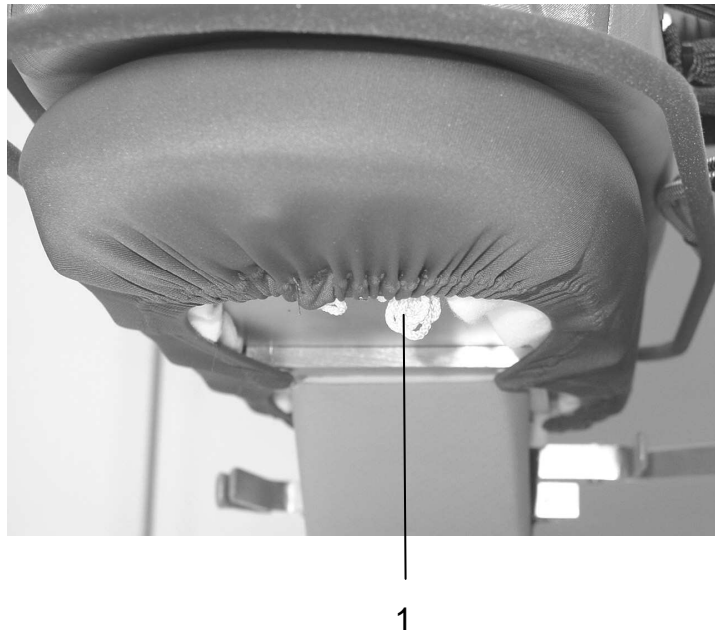
- Cut off steam supply before changing pressing covers.
  - Shut off valve for steam supply.
  - Depressurise steam system by means of machine start.
  - Make sure that no steam emerges from the machine.
- Switch off main switch.
- Compressed-air supply remain switched on.



Make sure that head buck and lower buck as well as all parts which are connected to steam and condensate are cool, since there is a **risk of burn!**

### 7.1.1. Changing cover of lower buck

1. Release cord (Pos. 1) and remove worn cover from lower buck.



*Ill. 25, Changing of pressing cover (lower buck)*

2. Pull new pressing cover onto the lower buck taking into account the cover composition.

Cover composition (see chapter 12.3)

- |          |   |                        |
|----------|---|------------------------|
| 1. Layer | - | copper wire            |
| 2. Layer | - | nomex needle felt 4 mm |
| 3. Layer | - | silicon foam 10 mm     |
| 4. Layer | - | stretch, blue          |

**Note**

Make sure that the seams of the cover are not on the pressing surface.

3. Stretch the pressing cover and knot the cord.

## 7.1.2. Changing cover of head buck

1. Unscrew safety frame (Pos. 3) at the head buck.



Make sure that no safety functions are active.

2. Remove the fastening strips (Pos. 2) by unscrewing the butterfly nuts (Pos. 1) and remove the worn cover from head buck.



*Ill. 26, Changing of pressing covers (head buck)*

3. Pull the new pressing cover onto the lower buck taking into account the cover composition.

### Cover composition (see chapter 12.3)

- |          |   |                                  |
|----------|---|----------------------------------|
| 1. Layer | - | copper wire                      |
| 2. Layer | - | nomex needle felt 6 mm           |
| 3. Layer | - | solder coated copper wire        |
| 4. Layer | - | solder coated copper wire (fine) |
| 5. Layer | - | stretch, blue (if necessary)     |

### **Note**

Make sure that the cover is not folded.



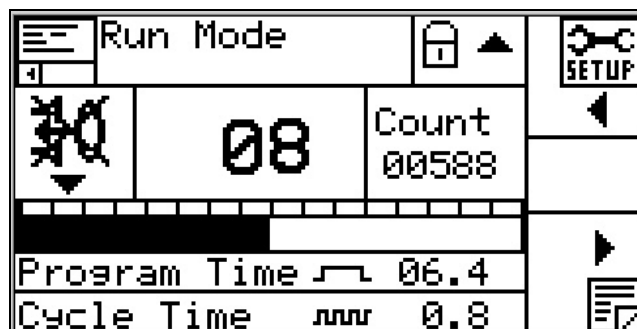
The machine control **BRcompact** is described in a separate technical manual.

- Once the machine is switched on, the start screen is displayed.



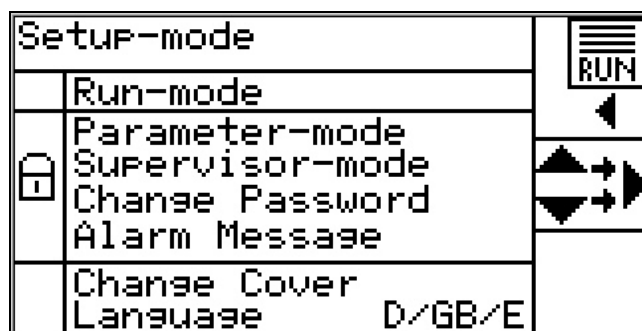
III. 27, Start screen

- Change to operating mode by pressing the arrow key  $\leftarrow$ .



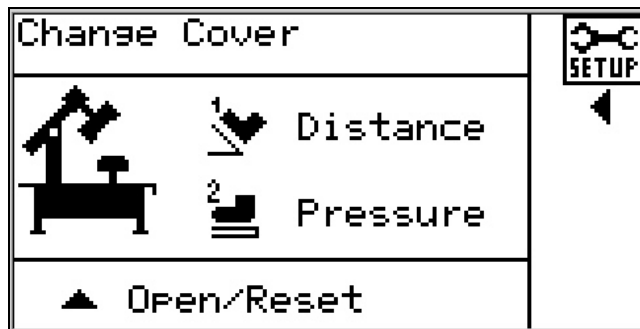
III. 28, Operating mode

- Change to setup mode by pressing the arrow key  $\leftarrow$ .



III. 29, Setup mode

7. Move cursor to "Change cover" by pressing the arrow key (⏮). Display selected screen by pressing the arrow key (⏭).



Ill. 30, Change cover

**see page 44, Ill. 19, Pos. 3**

8. Press pedal "Start" until the first step (first contact point). Head buck closes at the set distance.
9. Realign the garment, if necessary.
10. Press pedal "Start" until the second step (second contact point). The head buck closes with the preset pressing pressure.
11. Fasten pressing cover to threaded bolts (see page 58, Ill. 26, Pos. 1). Cut off overlapping cover material and make cuts into its ends. Stretch the pressing cover using the fastening strips (see page 58, Ill. 26, Pos. 2). Fasten butterfly nuts (see page 58, Ill. 26, Pos. 1).
12. Open head buck by pressing arrow key (⏮) and use arrow key (⏭) to change to setup mode.
13. Switch off main switch (see page 41, Ill. 17, Pos. 3).
14. Mount the safety frame (see page 58, Ill. 26, Pos. 3).



Before commissioning the machine, check the functioning of the safety frame.



## 8. MAINTENANCE / CLEANING



The chapter MAINTENANCE / CLEANING is addressed to qualified staff only. Maintenance, cleaning and repair work must be carried out by qualified staff (definition see chapter 2.4 SAFETY MEASURES) only.

Operating and maintenance staff will be instructed on site by staff of BRISAY-Maschinen GmbH unless otherwise agreed in the purchase contract.

### Qualified person

A person who is capable of judging tasks assigned to him/her and of identifying dangers due to his/her technical training, knowledge and experience as well as knowledge of the relevant industrial standards.

**The definition follows EN 60204-1:2006+A1:2009.**

To assure a faultless operation of the machine, it is indispensable to clean and service the machine on a regular basis.

Appropriate workshop equipment is indispensable for any kind of maintenance work.

During operation, the machine is subject to vibration which might cause bolted and clipped connection to loosen. To prevent damage, check the machine at regular intervals for loose connections (recommendation every three months).



When carrying out installation work above body height, the provided ladders or service platforms must be used or any other ladder meeting the required safety standards. Do not mount on components of the machine. A safety harness should be worn when carrying out maintenance work in greater heights.

Make the maintenance area safe to the extent to which it is necessary.

Inform operating staff before starting with maintenance work. Appoint a person to supervise the work.

Comply with the existing local environmental regulations when disposing of the exchange parts.



Make sure that head buck and lower buck as well as all parts in connection with steam and condensate are cool, since there is a **risk of burn!**



Before starting with cleaning, maintenance or repair work (by qualified staff only), the following disconnect procedure must be observed:

1. Cut off steam supply
  - Shut off valve for steam supply.
  - Depressurise steam system by means of machine start.
  - Make sure that no steam emerges from the machine.
2. Switch off machine from power supply
  - Set main switch on switch cabinet to "0".
  - Padlock main switch to prevent the machine from being switched on again.
  - Remove power plug.
  - Make sure that no current is carried.
3. Cut off compressed-air supply
  - Shut off compressed-air valve.
  - Remove air from compressed-air lines.
  - Attention!** Head buck is lowered.
  - Check if the machine without pressure.

In case of non-observance, the life of staff may be in danger.

## 8.1. CLEANING

Remove oil and grease from the machine at regular intervals, in particular **before** carrying out maintenance and repair work.



**Do not use**

- chlorinated hydrocarbon, e.g. PER or TRI,
- inflammable, easily gasifying or caustic liquids.

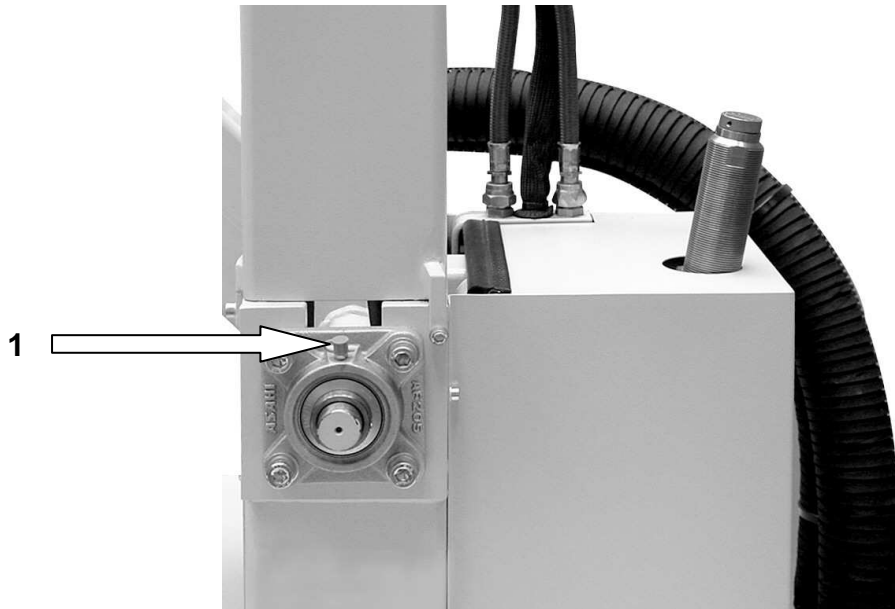
Do **under no circumstances** clean the machine with compressed air or a steam or water jet. Non-observance may result in malfunctions of the machine, in particular regarding the safety functions. This might cause a machine damage or injuries.

- Clean the machine with a fibre-free cloth.

## 8.2. MAINTENANCE AND INSPECTION TABLE

INSPECTION AND MAINTENANCE PLAN			
Interval	Parts to be inspected	Work to be carried out	Remarks
8 hrs	Safety devices	Functional inspection	See chapter 2.3 BUILT-IN SAFETY SYSTEMS
40 hrs	Maintenance unit compressed air	Visual inspection	Drain off water/oil Pressure range: 6 bar  <b>1 x annually</b> replace dirty air filter
	Entire machine	Cleaning	Wipe with a clean, lint-free cloth.
	Main switch <ul style="list-style-type: none"> <li>Switch and switch fixtures</li> </ul>	Functional inspection	Check and replace if necessary.
160 hrs	<ul style="list-style-type: none"> <li>Manometer pressing pressure</li> </ul>	Visual inspection	Check pressure range
	<ul style="list-style-type: none"> <li>Pneumatic valves</li> <li>Cylinders</li> <li>Steam valves</li> <li>Suction valves</li> <li>Hoses and screw connections</li> <li>Bucks</li> </ul>	Leak test	Check and replace if necessary.  Should leaks be discovered on the bucks, the BRISAY service department has to be informed immediately.

## 8.3. LUBRICATION



III. 31, Lubrication points

Maintenance plan bearing unit			
Intervals	Point of intervention	Work to be carried out	Remark
1x per year	Right and left bearing unit (Pos. 1)	Lubrication	Only use grease products which are recommended by BRISAY.

Recommended grease products		
Manufacturer	Type	Temperature range
Shell	Alvania R2	-35 bis + 130°C
Aral	HL2	-35 bis + 120°C
BP	Energrease LS2	-35 bis + 120°C
Esso	Beacon 2	-30 bis + 120°C
Mobil	Mobilux 2	-30 bis + 120°C

## 8.4. MACHINE CHECKS

If all functions are faultless, the machine is handed over to the operator.



After having examined and replaced the wear parts, check all safety devices for their functioning.

After having finished this work, check

- the machine for loose connections of the supply lines (compressed air, steam, condensate, oil),
- the machine for wear marks or damages and remedy them if necessary,
- the earth connections at the machine,
- that the work has been carried out completely,
- that no tools have been left in the machine,
- that the switch cabinet is closed.

## 9. REMEDY OF FAULTS / ELIMINATION OF DEFECTS



The facts and indications which are described as **faults** in this chapter are detailed in such a way that they may be remedied by a **instructed person**.

If a fault cannot be remedied, a **qualified person** has to be informed.

The facts and indications which are described as **defects** in this chapter, are detailed in such a way that they may be eliminated by a **person qualified** in

- electrics/electronics
- mechanics/maintenance

The facts and indications which are described as **recommendations for pressing operations** in this chapter, are detailed in such a way that they may be understood by the respective person mentioned in the column **Person in charge**, either

- an instructed person
- an authorised person or
- a qualified person.  
(see definition in chapter 2.4 SAFETY MEASURES)

These members of staff must be equipped with the necessary tools and test mediums.

Before starting with maintenance and repair work, the disconnect procedures (see chapter 3.4) have to be carried out.

Should the stated remedies not produce the desired results, contact the service department of BRISAY-Maschinen GmbH.

## 9.1. FAULT, CAUSE, REMEDY



The facts and indications which are described as **faults** in this chapter are detailed in such a way that they may be remedied by an **instructed person**.

If a fault cannot be remedied, a **qualified person** has to be informed.

Fault	Cause	Remedy
No function at all	<ul style="list-style-type: none"> <li>■ No compressed air</li> <li>■ Main switch switched off</li> <li>■ Emergency stop button activated</li> </ul>	<ul style="list-style-type: none"> <li>■ Check compressed air provided by customer</li> <li>■ Switch on main switch</li> <li>■ Release emergency stop button</li> </ul>

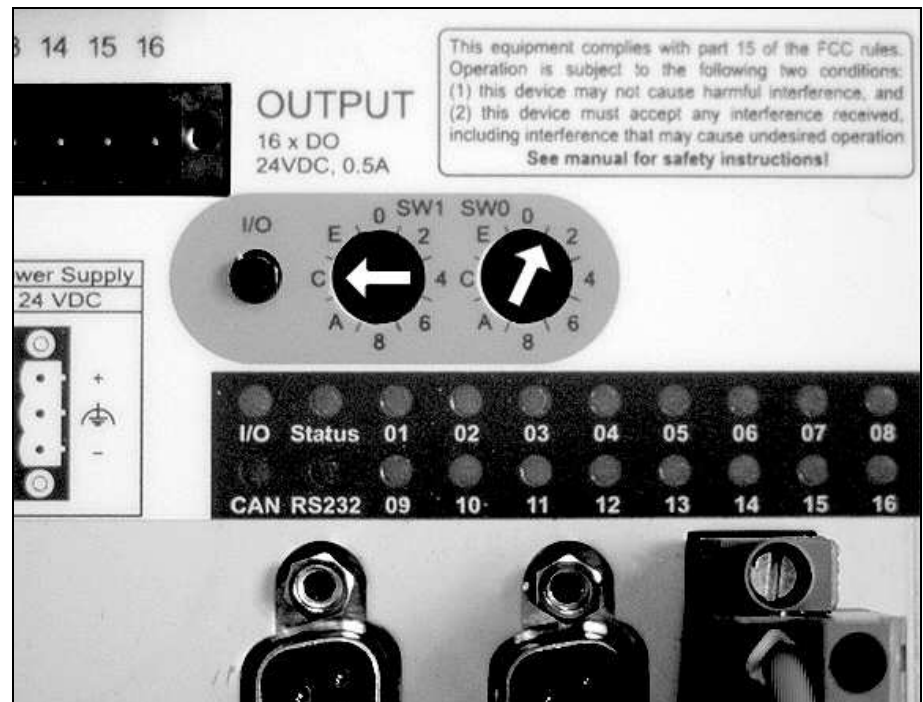
### 9.1.1. Alarm messages

Alarm messages are displayed:

Alarm messages	Cause	Remedy
<b>Release/ Safety frame</b>	<ul style="list-style-type: none"> <li>■ Button "Release" not pressed or safety frame has triggered</li> </ul>	<ul style="list-style-type: none"> <li>■ Press button "Release"</li> </ul>
<b>No programme</b>	<ul style="list-style-type: none"> <li>■ Programme or parameters missing</li> </ul>	<ul style="list-style-type: none"> <li>■ Enter parameters</li> </ul>
<b>Steam iron</b>	<ul style="list-style-type: none"> <li>■ Steam iron not on deposit</li> </ul>	<ul style="list-style-type: none"> <li>■ Put steam iron on deposit</li> </ul>



## 9.1.2. Setting of node switch



III. 1, Setting of node switch

- Check these standard settings in case of problems related to machine control.  
The node switches are located at the back of the **BRcompact** machine control in the control panel.

## 9.2. DEFECTS, CAUSE, ELIMINATION



The facts and indications which are described as **defects** in this chapter, are detailed in such a way that they may be eliminated by a **person qualified** in

- electrics/electronics
- mechanics/maintenance.

The machine components mentioned in the column "Cause" are detailed in the supplied electric circuit and pneumatic diagrams.

Defect	Cause	Elimination
No function at all	<ul style="list-style-type: none"> <li>■ No supply voltage</li> <li>■ No compressed air</li> <li>■ Safety relay K1 defective</li> <li>■ Switch on safety frame S1, S1.1, S1.2 defective</li> <li>■ Reset button S2 defective</li> </ul>	<ul style="list-style-type: none"> <li>■ Reconnect power supply and check</li> <li>■ Reconnect compressed-air supply</li> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> </ul>
Programm does not start  (option, only with steam iron)	<ul style="list-style-type: none"> <li>■ Magnetic switch S13 defective</li> <li>■ Machine control defective</li> <li>■ Identification steam iron S16 defective</li> </ul>	<ul style="list-style-type: none"> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> </ul>
Head buck does not swivel into position	<ul style="list-style-type: none"> <li>■ Magnetic switch S13 defective</li> <li>■ 5/2 directional control valve Y3, Y4 defective</li> <li>■ One-way restrictor V7 defective</li> <li>■ Throttle D1 set incorrectly</li> <li>■ Pedal "Start" S11.1 defective</li> </ul>	<ul style="list-style-type: none"> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Check, reset if necessary or replace</li> <li>■ Check and replace if necessary</li> </ul>

Defect	Cause	Elimination
Head buck does not swivel in/open properly	<ul style="list-style-type: none"> <li>■ Insufficient compressed-air supply</li> <li>■ Shock absorber defective</li> <li>■ Magnetic switch S14 defective</li> <li>■ Throttle D1, D2, V7 set incorrectly</li> <li>■ Pressure reducer V4 set incorrectly</li> <li>■ Cylinder Z1 leak</li> </ul>	<ul style="list-style-type: none"> <li>■ Check compressed-air supply provided by customer</li> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Check, reset if necessary or replace</li> <li>■ Check, reset if necessary or replace</li> <li>■ Check tightness and replace if necessary</li> </ul>
Head buck does not keep the distance	<ul style="list-style-type: none"> <li>■ Pressure spring on cylinder Z1 set incorrectly or defective</li> <li>■ Magnetic switch S14 defective</li> </ul>	<ul style="list-style-type: none"> <li>■ Check, reset if necessary or replace</li> <li>■ Check and replace if necessary</li> </ul>
No pressing pressure head buck	<ul style="list-style-type: none"> <li>■ Cylinder Z1 leak</li> <li>■ Pressure selector switch S22, S23, S24, S25 defective</li> <li>■ Pressure stages not pre-selected or programmed</li> </ul>	<ul style="list-style-type: none"> <li>■ Check tightness and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Pre-select pressure stages or check programme</li> </ul>
No steam head buck	<ul style="list-style-type: none"> <li>■ No or not enough steam supply</li> <li>■ Steam valve Y1, Y2, incorrectly set or defective</li> <li>■ Magnetic switch S15 defective</li> <li>■ Suction valve Z2, Z4 leak</li> <li>■ Pedal“Steam“S19 defective</li> <li>■ Steam not pre-selected or programmed</li> </ul>	<ul style="list-style-type: none"> <li>■ Check steam supply provided by customer</li> <li>■ Check, reset if necessary or replace</li> <li>■ Check and replace if necessary</li> <li>■ Check tightness and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Pre-select steam or check programme</li> </ul>

Defect	Cause	Elimination
Suction does not work	<ul style="list-style-type: none"> <li>■ No low pressure</li> <li>■ Suction valve Z2 (Lower buck), Z4 (Head buck) defective</li> <li>■ 5/2 directional control valve Y6 (Lower buck), Y8 (Head buck) defective</li> <li>■ Pedal S10 defective</li> <li>■ Knee rocker switch S17 defective</li> <li>■ Suction not pre-selected or programmed</li> </ul>	<ul style="list-style-type: none"> <li>■ Check suction provided by customer</li> <li>■ Check and replace sealing or valve if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Pre-select suction or check programme</li> </ul>
Edge suction does not work	<ul style="list-style-type: none"> <li>■ No low pressure</li> <li>■ Suction valve Z3 defective</li> <li>■ 5/2 directional control valve Y7 defective</li> <li>■ Edge suction not switched on or not programmed</li> </ul>	<ul style="list-style-type: none"> <li>■ Check suction provided by customer</li> <li>■ Check and replace sealing or valve if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Switch one edge suction or check programme</li> </ul>
Blowing lower buck does not work	<ul style="list-style-type: none"> <li>■ No compressed-air supply</li> <li>■ Blowing valve Y11 defective</li> <li>■ Knee rocker switch S18 defective</li> <li>■ Blowing not pre-selected or programmed</li> </ul>	<ul style="list-style-type: none"> <li>■ Check compressed-air supply provided by customer</li> <li>■ Check and replace if necessary</li> <li>■ Check and replace if necessary</li> <li>■ Pre-select blowing or check programme</li> </ul>

Defect	Cause	Elimination
<p>Trouser waistband clamp and stretching device does not work</p>	<ul style="list-style-type: none"> <li>■ 5/2 directional control valve Y9, Y10 defective</li> <li>■ Throttle V10, V11, V12, V13 set incorrectly</li> <li>■ Cylinder Z5, Z6 (close holding clamp), Z7 (stretch holding clamp) leaking</li> </ul>	<ul style="list-style-type: none"> <li>■ Check and replace if necessary</li> <li>■ Check, reset if necessary or replace</li> <li>■ Check tightness and replace if necessary</li> </ul>

### 9.3. RECOMMENDATIONS FOR PRESSING OPERATIONS



The facts and indications which are described as **recommendations for pressing operations** in this chapter, are detailed in such a way that they may be understood by the respective person mentioned in the column **Person in charge**, either

- an instructed person
- an authorised person or
- a qualified person.

Pressing result	Cause	Remedy	Person in charge
<b>Creases</b>	Covering not as specified Covering too high	Adjust covering to specification	<b>Authorised person</b>
	Garment inserted incorrectly	Observe method	<b>Instructed person</b>
<b>Bad pressing work</b>	Steam valve set incorrectly or defective	Set steam valve	<b>Authorised person</b>
		Replace steam valve	<b>Qualified person</b>
	Cover material soiled / worn	Change cover material	<b>Authorised person</b>
	Steam hose kinked or defective	Remove kink	<b>Authorised person</b>
		Replace hose	<b>Qualified person</b>
<b>Waves</b>	Covering too high or too low	Adjust covering to specification	<b>Authorised person</b>
	Steam distribution not optimal	Change cover material	<b>Authorised person</b>
	Amount of steam too big	Set steam valve	<b>Authorised person</b>
	Pressure level too high	Adjust pressure level	<b>Instructed person</b>
<b>Distortion</b>	Covering too high	Adjust covering to specification	<b>Authorised person</b>

Pressing result	Cause	Remedy	Person in charge
<b>Soiled garment</b>	Cover material soiled	Change cover material	<b>Authorised person</b>
	Stains due to oil in compressed air	Stains due to oil in compressed air Compressed air supply at customer's defective, empty maintenance unit	<b>Qualified person</b>
<b>Marks / Shine</b>	Pressure level too high	Adjust pressure level	<b>Instructed person</b>
	Cover material is pressed flat and no longer has the elastic force to counteract the pressing pressure	Change cover material	<b>Authorised person</b>
	Cover material soiled, blowing air hardly or no longer reaches garment	Change cover material	<b>Authorised person</b>
	Blowing air insufficient	Enlarge hose connection at customer's	<b>Qualified person</b>
	Suction too high	Adjust suction valve, see chapter <b>Fehler! Verweisquelle konnte nicht gefunden werden.</b>	<b>Qualified person</b>





## 10. EMERGENCY

In case of danger, an emergency shut-down must be carried out.

In case of emergency:

- press emergency stop button at control panel,
- activate the safety frame on the head buck,
- switch off main switch on the switch cabinet,
- remove power plug.

The following procedure is triggered:

- head buck is raised,
- steam exhaust is switched off.

The emergency stop button may be released by pulling.

In **case of fire** switch off the machine and remove power plug.

Switch off all energy supplies:

- steam
- compressed air.



Before operating the machine

- find out where the fire extinguisher is located,
- learn how to handle the fire extinguisher,
- inform yourself on how to report fires without delay.

A risk of fire may be caused by inflammable liquids and mixtures of liquids and gases (e.g. oil oxygen mixture).

Fire extinguishers to be used in accordance with fire classification DIN EN 2:

- powder fire extinguisher for class A, B, C fires designed for solid, liquid and gaseous substances,
- powder fire extinguishers for class D fires designed for inflammable metal,
- carbon dioxide fire extinguishers for liquid, gaseous and solid substances.



## **11. DISMANTLING / DISPOSAL**

The trouser top pressing machines are mainly built of steel (apart from the electrical equipment) and must be disposed of in accordance with the existing local environmental regulations.

Oil and cleaning agents must be disposed of in accordance with the local regulations as well.

Residues as well as the covers of head and lower buck must be disposed of in accordance with the instructions given by the material manufacturer or the local regulations.



## 12. SPARE PARTS LISTS



We draw your attention in particular to the fact that we cannot test and release spare parts and accessories which have not been supplied by us. The fitting and/or use of such products may therefore have a negative effect on the designed characteristics of the machine.

BRISAY-Maschinen GmbH shall not be liable for any damage caused due to the use of non-original parts and non-original accessories.



The spare parts with the relevant article numbers are described in this chapter as well as on the supplied CD "Spare parts catalogue".

When enquiring or ordering in writing or on the phone, please always quote

- type of machine (see cover),
- number of machine (see cover),
- article number of the relevant component.

### **Address**

**BRISAY-Maschinen GmbH**

Mittelweg 4

D-63762 Grossostheim-Ringheim, Germany

Phone: ++49 (0) 6026/997-0

Fax: ++49 (0) 6026/997-100

e-mail: [info@brisay.com](mailto:info@brisay.com)

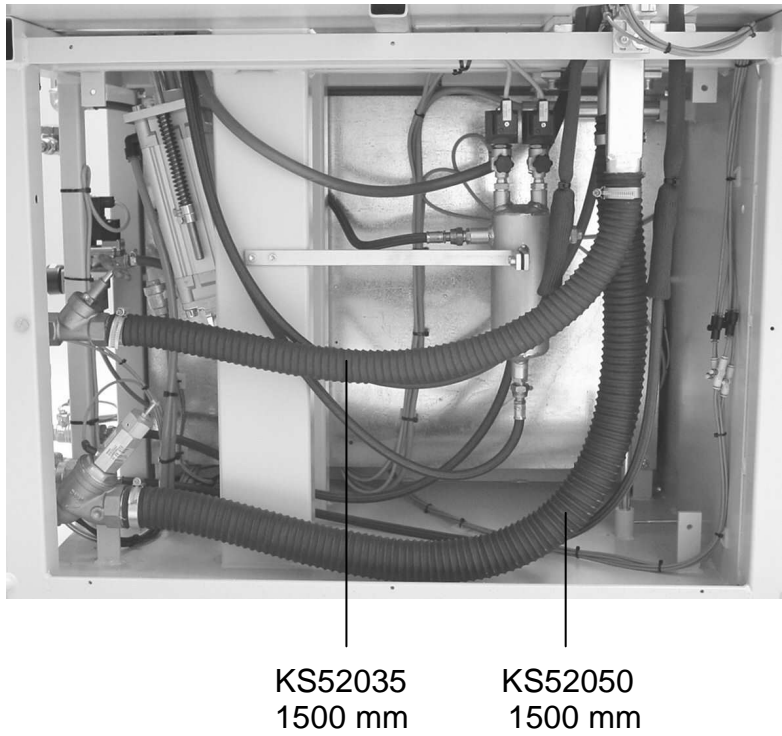
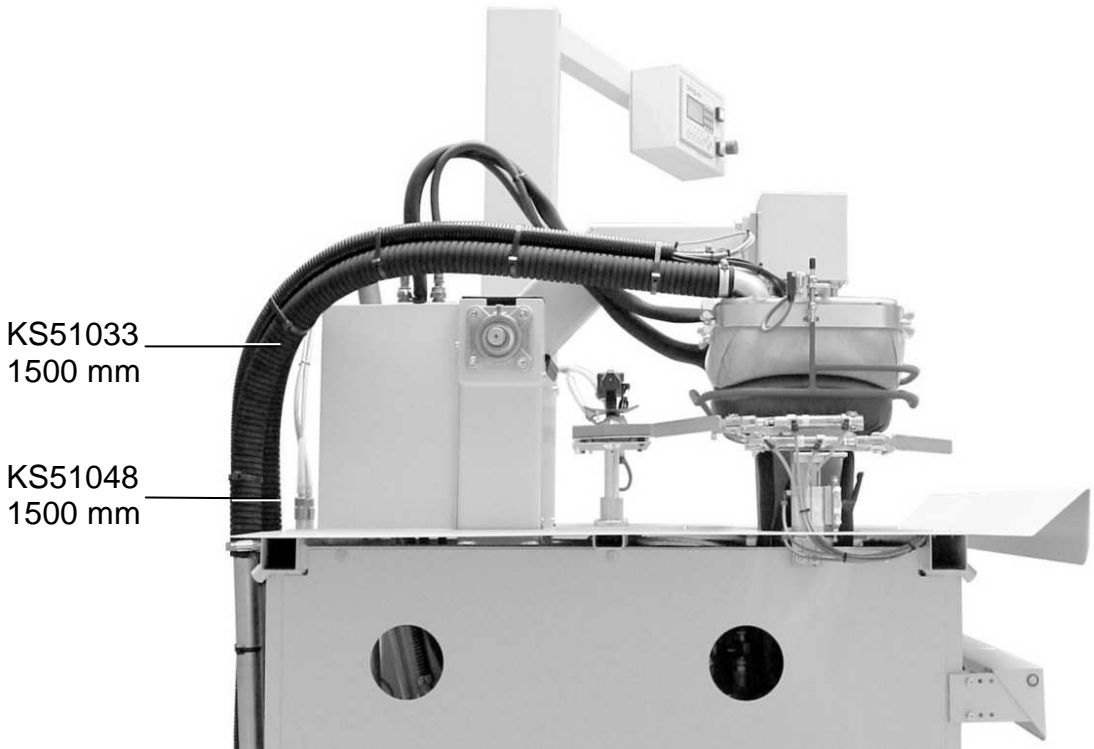
[www.brisay.com](http://www.brisay.com)

Service department: Tel: ++49 (0) 6026/997-0

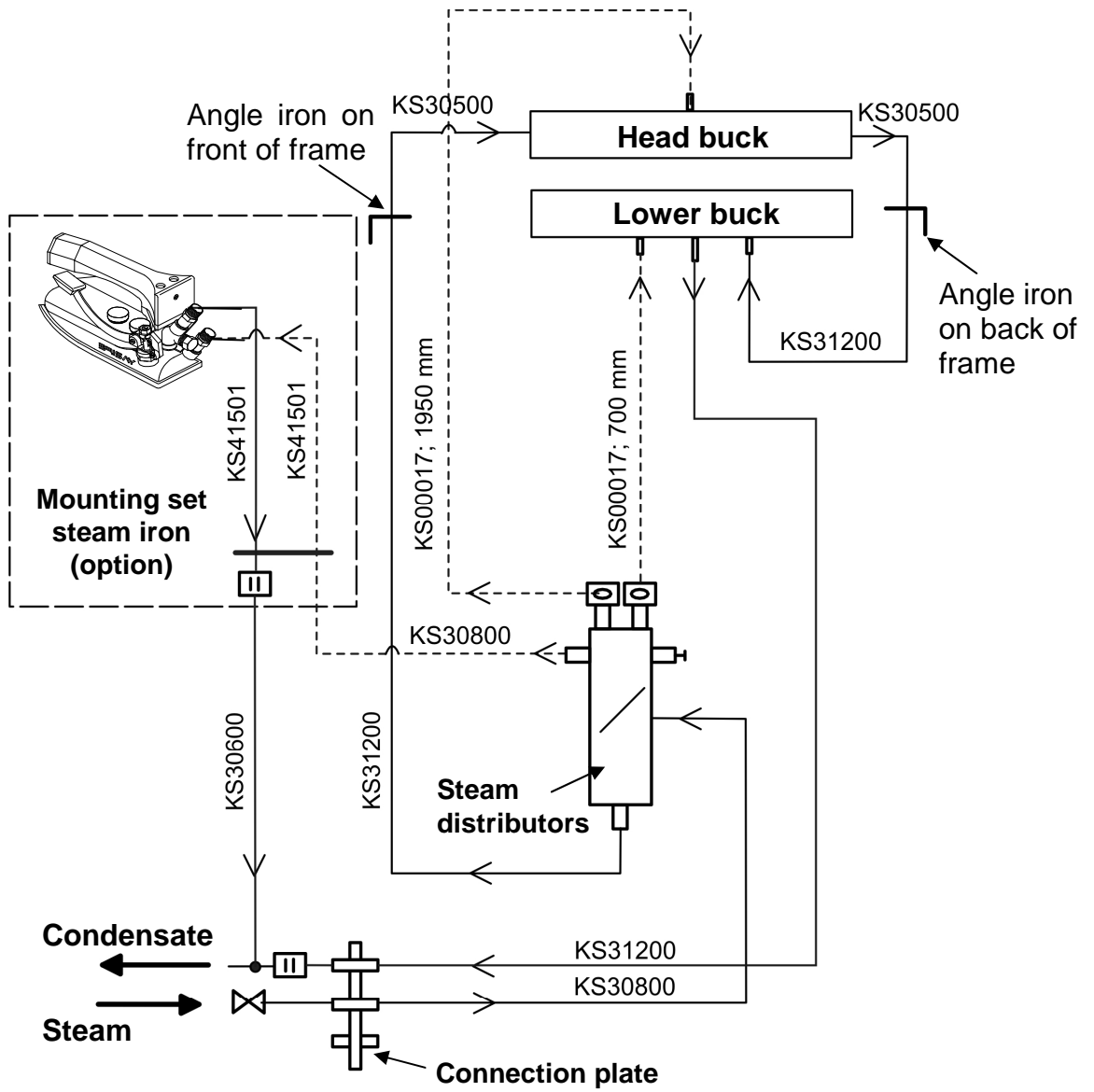
Fax: ++49 (0) 6026/997-100






e-mail: [service@brisay.com](mailto:service@brisay.com)

### 12.1. SUCTION HOSE



## 12.2. STEAM AND CONDENSATE PLAN



-  **Steam valve**
-  **Condensate drain**
-  **Ball valve**
-  **Steam**
-  **Steam admission**

Steam system plan no.:

24-2390 / 201-001

## 12.3. COVER MATERIAL

BRI-2390/201 Hosenrumpfmaschine

BRI-2390/201 Trouser Top Pressing Maschine

**Bitte geben Sie bei jeder Bestellung von Fertigware die Maschinen Nr. und Form Nr. an.**

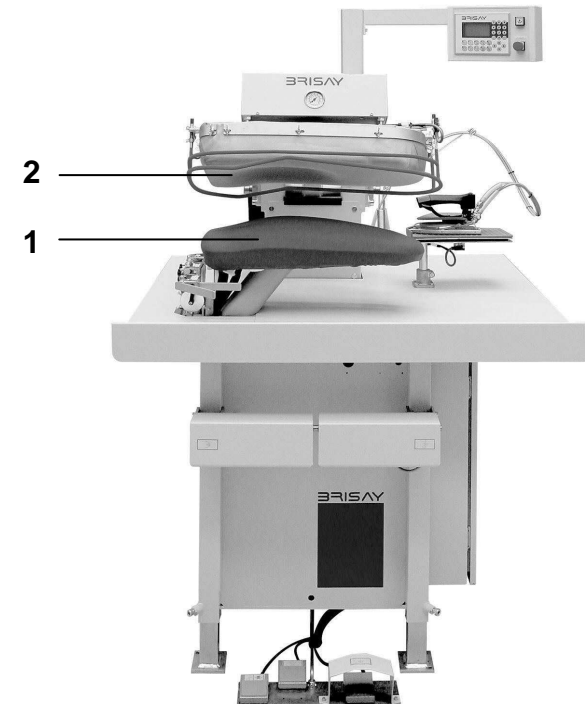
**Please give us the machine no. and buck no. for every order of ready made parts.**

Maschinen Nr. :

Machine no.: \_\_\_\_\_

Form Nr. :

Buck no.: \_\_\_\_\_






BRI-2390/201 Hosenrumpfbügelmaschine  
BRI-2390/201 Trouser Top Pressing Machine

	Artikelbezeichnung der Bezugslagen, beginnend auf der Metall- Bügelform	Description of the layers, starting at the metall-iron buck	Meterware / yard goods	Fertigware einzeln / ready-made single goods	Fertigware komplett / ready-made complete set	Fertigware Ver- schleiß Set / ready-made wear and tear kit	Warenbreite / width of mate- rial  cm	Verbrauch lfm. / qty. linear meter.  m
<b>1</b>	1. Kupferdrahtgewebe	1. copper wire	KG20030	L11	•	C105XX01	130	0,40
	2. Nomex Nadelfilz 4 mm	2. nomex needle felt 4 mm	KG00100	L12	•	•	160	0,50
	3. Silikonschaum 10 mm	3. silicon foam 10 mm	KG10090	L13	•	•	90	0,30
	4. Stretch blau	4. stretch blue	KG00030	L14	•	•	140	0,40
<b>2</b>	1. Kupferdrahtgewebe	1. copper wire	KG20030	L11	•	C105XX03	130	
	2. Nomex Nadelfilz 6 mm	2. nomex needle felt 6 mm	KG00105	L22	•	•	160	
	3. Kupferdrahtgewebe verzinkt	3. solder coated copper wire	KG20010	L23	•	•	130	0,40
	4. Kupferdrahtgewebe verzinkt (fein)	4. Solder coated copper wire (fine)	KG20050	L24	•	•	150	0,40
	5. Stretch blau	5. stretch blue	KG00030	L25			140	

**Bitte geben Sie bei jeder Bestellung von Fertigware die Maschinen Nr. und Form Nr. an.  
Please give us the machine no. and buck no. for every order of ready made parts.**



# 13. EC DECLARATION OF CONFORMITY

<p><b>EG-Konformitätserklärung / EC declaration of conformity /                  Declaración CE de conformidad / Dichiarazione CE di conformità / EC Uygunluk sertifikası /                  Deklaracja zgodności WE / ЕС Декларация за съответствие / ЕС-Соответственное объяснение</b></p>		
Typ: <input type="checkbox"/> <b>BRI-2390/201</b> <input type="checkbox"/> <b>BRI-2390/301</b> <input type="checkbox"/> <b>BRI-2390/401</b>	Maschinenummer/ Machine number: _____	
<p>Hiermit erklären wir, dass die Bauart des genannten Geräts in der gelieferten Ausführung folgenden einschlägigen Richtlinien entspricht:                  Herewith we declare that the supplied model complies with the following provisions applying to it:                  Por la presente, declaramos que el modelo suministrado satisface las disposiciones pertinentes siguientes:                  Con la presente, si dichiara che il modello fornito è conforme alle seguenti disposizioni pertinenti:                  Isbu belge ile temin edilen makinanın asagidaki normlara uygun oldugunu teyit ederiz:                  Niniejszym oświadczamy, że wymienione urządzenie w dostarczonej wersji odpowiada poniższemu wytycznym WE:                  С настоящето декларираме, че конструкцията на уреда в доставеното му изпълнение отговаря на следните отнасящи се директиви:                  Мы заявляем, что способ постройки названного аппарата в поставляемом исполнении соответствует специальным директивам руководящих принципов</p>		
<b>EG-Richtlinie Maschinen 2006/42/EG</b>	<b>EMV-Richtlinie 2004/108/EG</b>	
Angewandte harmonisierte Normen, insbesondere: Normas armonizadas utilizadas, particularmente: Asagida belirlilen standartlara uygundur: Приложени хармонизирани норми, специално:	Applied harmonized standards, in particular: Norme armonizzate applicate in particolare: Zastosowane, współbrzmiające normy, w szczególności: Прикладные согласованные нормы, в частности:	
<b>DIN EN ISO 12100-1 (04/2004)</b> <b>DIN EN 61000-6-2 (03/2006)</b>	<b>DIN EN ISO 12100-2 (04/2004)</b> <b>DIN EN 61000-6-4 (09/2007)</b>	<b>DIN EN 60204-1 (06/2007)</b>
Bevollmächtigter für die Zusammenstellung der technischen Unterlagen: Authorized representative for the compilation of the technical documents: La persona autorizada para la disposición de los documentos tecnicos: Delegato per la compilazione dei documenti tecnici: Teknikin dökümanların telif hakkına yetkili tek firma: Jednostka odpowiedzialna za przedstawienie właściwej dokumentacji technicznej: Упълномощен за окомплектоването на техническата документация: Уполномоченный для составления технической документации:		
<b>Brisay-Maschinen GmbH</b>		
<b>Brisay-Maschinen GmbH</b> <b>Mittelweg 4</b> <b>D-63762 Grossostheim-Ringheim</b>		
Ringheim, 12.01.2010	 i.V. Reinhold Erbacher	

**EG-Konformitätserklärung / EC declaration of conformity / Déclaration "CE" de conformité  
Declaração CE de conformidade / UE-Declaratie de conformitate / EU-Izjava o skladnosti /  
EU megfeleléségi tanúsítvány**

Typ:  **BRI-2390/201**  
 **BRI-2390/301**  
 **BRI-2390/401**

Maschinennummer/ Machine number: \_\_\_\_\_

Hiermit erklären wir, dass die Bauart des genannten Geräts in der gelieferten Ausführung folgenden einschlägigen Richtlinien entspricht:

Herewith we declare that the supplied model complies with the following provisions applying to it:

Par la présente, nous déclarons, que le modèle fourni correspond aux dispositions pertinentes suivantes:

Com a presente, declaramos que o modelo fornecido da está em conformidade com as disposições pertinentes, a saber:

Prin prezenta declaram ca, tipul de constructie al utilajului, in forma livrata, corespunde urmatoarelor Normative admise:

Ovime izjavljujemo, da oblik gradnje spomenutog uređaja u isporučenoj izvedbi odgovara slijedećim navedenim smjernicama:

Kijelentjük, hogy az alábbi berendezés a következő biztonsági előírásoknak megfelel:

**EG-Richtlinie Maschinen 2006/42/EG**

**EMV-Richtlinie 2004/108/EG**

Angewandte harmonisierte Normen, insbesondere:

Normes harmonisées utilisées, notamment:

Normative armonizate utilizate, in special:

Megfelel az alábbi szabványoknak:

Applied harmonized standards, in particular:

Normas harmonizadas utilizadas, em particular:

Primjenjene harmonizirane norme, osobito:

**DIN EN ISO 12100-1 (04/2004)**

**DIN EN ISO 12100-2 (04/2004)**

**DIN EN 60204-1 (06/2007)**

**DIN EN 61000-6-2 (03/2006)**

**DIN EN 61000-6-4 (09/2007)**

Bevollmächtigter für die Zusammenstellung der technischen Unterlagen:

Authorized representative for the compilation of the technical documents:

Fondé de pouvoir pour l'établissement des documents techniques:

Procurador com poderes para a compilação da documentação técnica:

Imputernicitul pentru compunerea documentatiei tehnice:

Opunomoćenik za sastav tehničke dokumentacije:

A technikai dokumentumok összeállításáért felelős felhatalmazott képviselő:

**Brisay-Maschinen GmbH**

**Brisay-Maschinen GmbH  
Mittelweg 4  
D-63762 Grossostheim-Ringheim**

Ringheim, 12.01.2010



i.V. Reinhold Erbacher



**Alphabetical Index****A**

Address .....	8, 56, 81
Adjusting .....	31
Alarm messages .....	68
Authorised person.....	14
Automatic operation .....	45

**B**

BRI-2390/201 .....	6
Built-in safety systems .....	10

**C**

Centre of gravity .....	24, 26
Changing cover of head buck .....	58
Changing cover of lower buck.....	57
Changing of pressing covers.....	55
Cleaning.....	61, 63
Commissioning .....	18, 35, 36
Compressed-air connection .....	34
Compressed-air supply .....	4
Condensate .....	5
Connection for condensate drain .....	34
Connection for suction .....	34
Connection of electric supply .....	33
Connection of steam supply.....	34
Control panel with machine control .....	43
Cut off pneumatic.....	20, 62
Cut off steam supply .....	20, 62

**D**

Danger signs.....	7
Dangerous area .....	17
Dangerous areas of the machine .....	17
Defects .....	67, 70
Defects, Cause, Elimination .....	70

Delivery.....	21
Description of the machine .....	2
Designation of the machine .....	8
Dimensions .....	4
Disconnect procedures .....	20
Dismantling.....	79
Disposal.....	79
Duties of the operating company .....	18
<b>E</b>	
EC declaration of conformity.....	87
Elimination of defects.....	67
Emergency .....	77
Emergency stop button.....	11
EU Directive EMC .....	9
EU Low Voltage Directive .....	9
EU Machinery Directive.....	9
<b>F</b>	
Fault, Cause, Remedy .....	68
Faults.....	68
Fire .....	77
Function.....	3
<b>G</b>	
General data.....	5
<b>H</b>	
Height adjustment for waistband clamp and stretching device .....	46
Hoop guard.....	11
<b>I</b>	
Installation .....	31, 33
Instructed person .....	13
Instructions .....	12
Intended use.....	1

**L**

Lifting device .....26  
 Lifting points.....26  
 Lubrication .....65

**M**

Machine checks .....66  
 Main switch ..... 10, 41  
 Maintenance .....55, 61  
 Maintenance and inspection table .....64  
 Manual operation .....45

**O**

Objections.....21  
 Operating and maintenance staff .....19  
 Operating area.....17  
 Operation .....41  
 Operator’s control and display .....41  
 Options ..... 6  
 Overseas shipment.....22  
 Overview of the function tracks .....53

**P**

Packing .....21  
 Packing for return shipment .....21  
 Pedal strip.....44  
 Person in charge.....74, 75  
 Potential dangers.....15  
 Power supply ..... 4  
 Pressing in automatic operation .....51  
 Pressing in manual operation.....48  
 Pressing result .....74, 75  
 Process cycle..... 3  
 Product-related data ..... 4  
 Protective hood.....11

**Q**

Qualified person..... 14, 61



**R**

Receiving inspection .....	21
Recommendations for pressing operations .....	67, 74
Release .....	43
Remedy of faults .....	67

**S**

Safety .....	7
Safety frame .....	11
Safety measures .....	13
Safety standards .....	9
Safety tests .....	14
Scope of delivery .....	6
Setting instructions steam valve .....	37
Setting instructions suction valve .....	38
Setting of node switch .....	69
Setting of pressing iron .....	39
Setting-up .....	31
Spare parts for cover material .....	84
Spare parts for Steam and condensate plan .....	83
Spare parts for Suction hose .....	82
Spare parts lists .....	81
Standard .....	6
Starting the machine .....	47
Steam supply .....	4
Storage conditions .....	22
Suction .....	5
Supply system .....	11
Switch off machine from power supply .....	20, 62
Switching off the machine .....	53

**T**

Technical data .....	4
Transport .....	21
Transport by crane .....	25
Transport by forklift truck .....	24
Transport insurance .....	22

Transport safeguard .....	27
Transport to the place of installation .....	22
Transportsicherung .....	29
<b>U</b>	
Unloading.....	22
<b>V</b>	
Verify tracks.....	53
<b>W</b>	
Warning symbols .....	7
Weight .....	4, 26