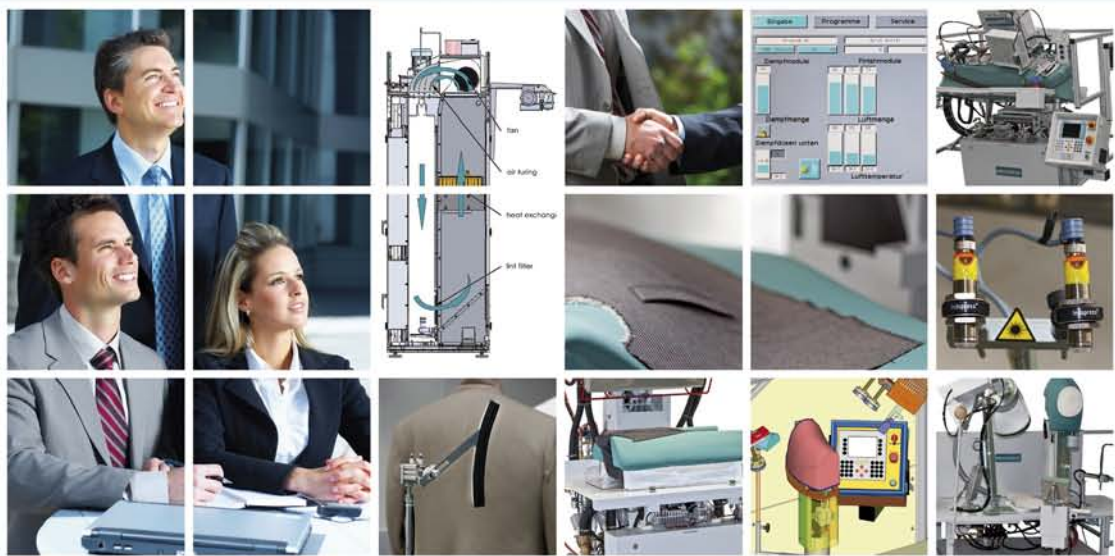


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worldwide



OPERATION MANUAL

Part II: Machine Part

Machine Control




INDUMAT PP41


operating instructions

English

Version 2009.06

Revision 102

	 WARNING	
<p>Please read the operating instructions before using the system and switching on the machine! This manual contains important information on safety, use and maintenance of the device. This would help you to protect yourself and others from being harmed and also prevent damage to the machine.</p>		

	<p>Notice</p> <p>The operating instruction consists of two documents (belonging together):</p> <ol style="list-style-type: none"> I. Operating manual part I „general part“ II. Operating manual part II „machine part“
---	---

Confidentiality

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Non-liability
 We have verified that the contents of this book are in accordance with the hardware and software outlined herein. All specifications have been made to the best of our knowledge. However, deviations may arise due to constant technical developments and improvements. Therefore, we do not warrant full conformity, i.e. any claims for non-conformity shall be excluded. The correctness and completeness of technical data is being checked on a regular basis. Necessary corrections shall be included in the following edition.

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INDUPRESS® 2009.06 Revision 102
 Technical data are subject to alterations.
 This instruction manual is not automatically updated!

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1 Legal information

1.1 Machine identification label / Rating plate

The INDUPRESS® machine is provided with the following rating plate:

● Beratung
● Verkauf
● Service

Hornung GmbH
INDUPRESS®
& Co. KG
Energie- und Bügelanlagen
worldwide

Type:

No:

Steam: bar

Air: bar l/min

Vac.: bar l/s

V Hz kW

A 1/min

D-63768 Hösbach ♦ Boschstraße 7
Tel. +49 6021/6237-0 ♦ Fax 57903 or 6237-66

Fig. 1 Example rating plate

1.2 Disclaimer

Hornung GmbH INDUPRESS® & Co. KG is not liable for any material damages or defects caused by negligent or improper use of the INDUPRESS® machine.

We have verified that the contents of this document are in accordance with the hardware and software outlined herein. However, deviations cannot be completely ruled out, so we do not guarantee full conformity.

1.3 Implicit Guarantee

Hornung GmbH INDUPRESS® & Co. KG does not give any tacit guarantees on the product's merchantable quality and fitness for a particular purpose.

1.4 Modifications, conversions

Any modifications or conversions to the INDUPRESS® machine shall require the explicit written consent by INDUPRESS® & Co. KG.

In the event, anyone but Hornung GmbH INDUPRESS® & Co. KG arbitrarily rebuilds the machine; Hornung GmbH INDUPRESS® & Co. KG is not liable as the producer of the appliance. Therefore our grant of the operating permit for the machine as well as its any possible guarantee shall expire.

1.5 Technical changes

Hornung GmbH INDUPRESS® & Co. KG reserves the right to carry out any technical changes to the machine in order to improve it.

The correctness and completeness of data given in this documentation is being checked on a regular basis, necessary corrections will be included in the following editions (revisions).

1.6 Revision service

This document is not subject to any revision service by Hornung GmbH INDUPRESS® & Co. KG. Amendments to this documentation can be made without further notice and will be included in the following editions (revisions).

1.7 Copyright

© Hornung GmbH INDUPRESS® & Co. KG

In the absence of an explicit written consent by Hornung GmbH INDUPRESS® & Co. KG, no part of this document should be disseminated, copied or exposed to third parties. Non-compliance will result in prosecution for indemnities. Hornung GmbH INDUPRESS® & Co. KG reserves all rights arising out of patent registration or registration of utility models.

2 Instructions for use

These operating instructions form an integral part of the machine and should be made accessible for users at all times, being positioned directly at the machine for reference. The user is required to follow the instructions given in this document.

No section of it should be removed from the manual. Missing pages or sections should be replaced asap.

2.1 Purpose

These operating instructions contain important information on the correct and safe handling of the INDUPRESS® machine.

- This instruction manual is part of the INDUPRESS® machine and should be understood and used by any person working at and/or with the machine.
- Before using the machine, the operator should be fully familiar with the contents of these operating instructions.
- These operating instructions should be kept updated with any changes or improvements in the machine by the concerned department.

2.2 Supplementary documents

Apart from this manual, the following documents may be made available to the operating person:

- Electrical switch plans (panels)
- Pneumatic switch plans (panels)
- Declaration of conformity
- Lists of spare parts

2.3 Qualified personnel

The INDUPRESS® machine and its included control module should be installed and/or used in no case without these operating instructions. Switching on and using the machine is restricted to qualified personnel only.

Definition: Qualified personnel (Expert / Instructed person)

Qualified personnel are defined in this document as persons familiar with installation, assembly, setting into operation and operation of the product. They are experts with the corresponding specialisation in their assigned work (expert of electronics and mechanics), as for example:

- Persons familiar with basic regulations on work safety and accident prevention.
- Persons having read and understood the section on safety as well as the caution notices in this manual.
- Persons trained and instructed to operate and use the INDUPRESS® machine.
- Persons qualified in their field and/or authorized to set up, modify and maintain the electrical and mechanical modules and work equipments in accordance with the standards of electro technical and mechanical rules and safety techniques. Furthermore, they have the capability to assess the responsibilities being assigned to them as well as anticipate its possible danger.
- Instructed person: A person fully informed about his respective responsibilities and possible dangers involved in the event of an accident while working on the machine and, if necessary, also trained by an expert as well as advised of the corresponding safety measures.

2.4 Useful reference

To help you find required information in this manual, please note the following references, alongside the table of contents:

- Abbreviations (Section 6 - List of abbreviations, Page 126)
- Glossary (Section 7 – Page 127)
- Illustrations (Section 8 - Table of illustrations, Page 128)
- Index (Section 9 - Index, Page 129)

3 Machine description/ normal operation

3.1 Functional description of pressing machines

INDUPRESS® pressing machines are designed for the garment industry. They serve to form, smoothen and press-finish the garment and their component parts. This operation is often accompanied by temperatures as high as 120°C.

The processing time per item of clothing depends on the nature of garment and also on the required program being used for this garment. It may be between 10 to 20 seconds per part with productivity of about 300 - 1100 parts in an 8-hour workday shift.

With the controller (programming device), all functions can be programmed for the proper operation of the INDUPRESS® machine as required by the user.

To control and monitor the machine functions and procedures, various programmable logic controller with menu-driven user interface are used.

The parameters required for optimal pressing quality, performance and energy consumption can be set via the user interface and can also be precisely adjusted, controlled and monitored.

3.1.1 Different Controllers

- **INDUPRESS® INDUMAT Basic**



Fig. 2 INDUMAT Basic - Two text-matrix Interface

- **INDUPRESS® INDUMAT 11**



Fig. 3 INDUMAT 11 - Graphical user interface with important information and error messages

- **INDUPRESS® INDUMAT 07**



Fig. 4 INDUMAT 07 - Graphical user interface with detailed info and error messages

- **INDUPRESS® PP41**



Fig. 5 INDUMAT PP41 - Graphical user interface with extensive information and self-keys as well as communicating messages

3.2 Structure and layout pressing machine (example)

3.2.1 Controls of

Only the described work areas and corresponding controlling areas should be considered for the operation of the machine. Other parts of the device are not necessary with respect to operational control and should therefore be avoided.

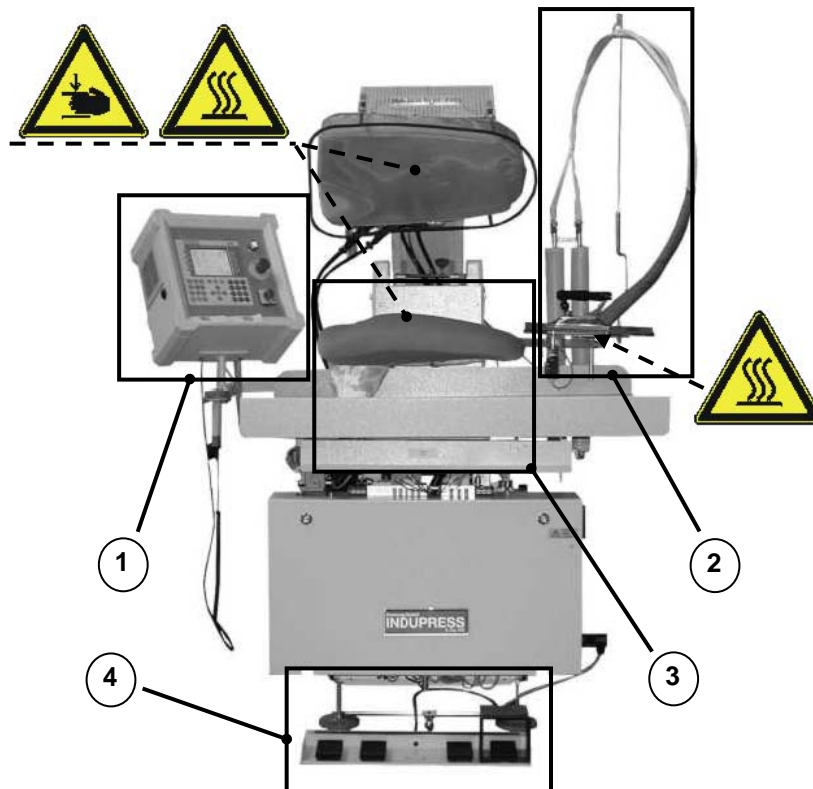


Fig. 6 Pressing Machine - Controls (Example)

For the operation of the machine, are the following operational elements:

Pos.	Operating Unit	Corresponding Activities
1	Main control console (Control)	<ul style="list-style-type: none"> ■ - Operation of the machine ■ - Enter and modify the pressing programs
2	Iron	Pre-or post-treatment of finishing garments with the iron.
3	Bottom - plate	<ul style="list-style-type: none"> ■ For placing and automatic ironing of textiles ■ Keep the garment in position by Closing the holding device (if available) ■ - Pressing the knee bar/s switches (if any)
4	Pedal	Run the functions according to the labels for the pedals

3.2.2 Basic pressing machine

The following modules are parts of the basic equipment:

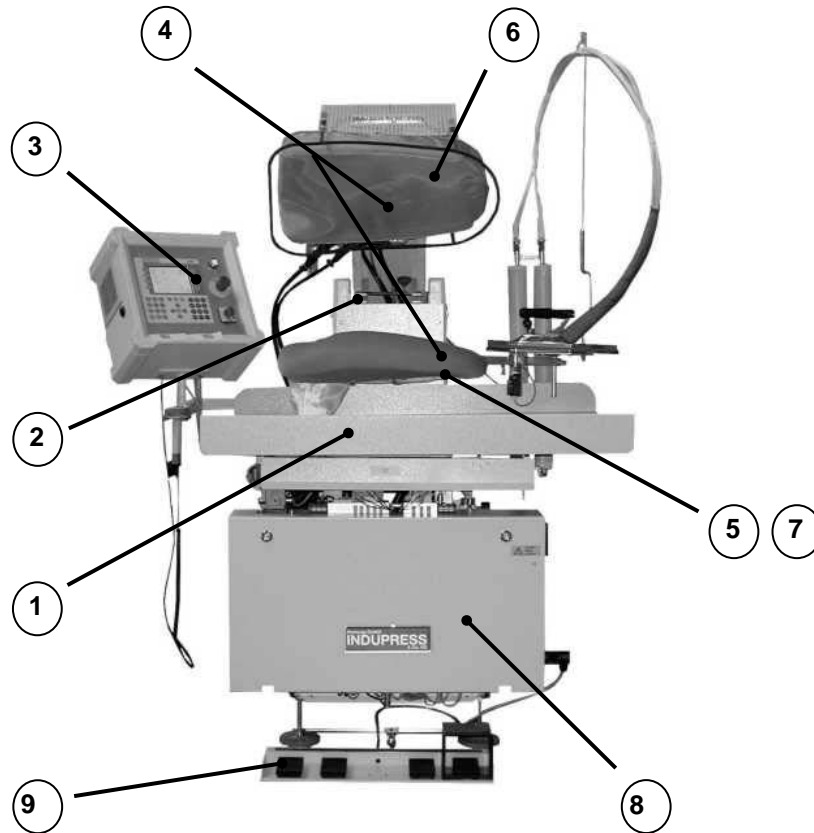
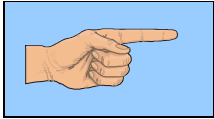


Fig. 7 Basic Pressing Machine (Example)

Pos.	Item Name	Function
1	Table top	<ul style="list-style-type: none"> Supporting the garment piece to be pressed Covering the machine frame
2	Machine frame	<ul style="list-style-type: none"> Addition of pressing plates(e.g. top plate, bottom plate) Lowering of the movable pressing plates (e.g. upper plate) to the stationary plate (e.g. bottom plate)
3	Command box	Control of all machine functions
4	Pressing plates	<ul style="list-style-type: none"> Consist of movable/s pressing plate (e.g. Upper plate) and stationary Pressing plate (e.g. bottom plate) Between these plates are the garments to be pressed.
5	Bottom plate vacuum	Drying / cooling of the textiles after steaming
6	Upper Plate Steam	Treating the garment with steam through the upper plate
7	Bottom plate blowing	Loosening and drying of textiles after ironing
8	Electric cabinet	Input control of energy and machine control components.
9	Foot controlled pedals	Inclusion of the foot pedals to control the functions of individual machines.

3.2.3 Optional Pressing Equipment



Notice:
Your machine may not have all these features.

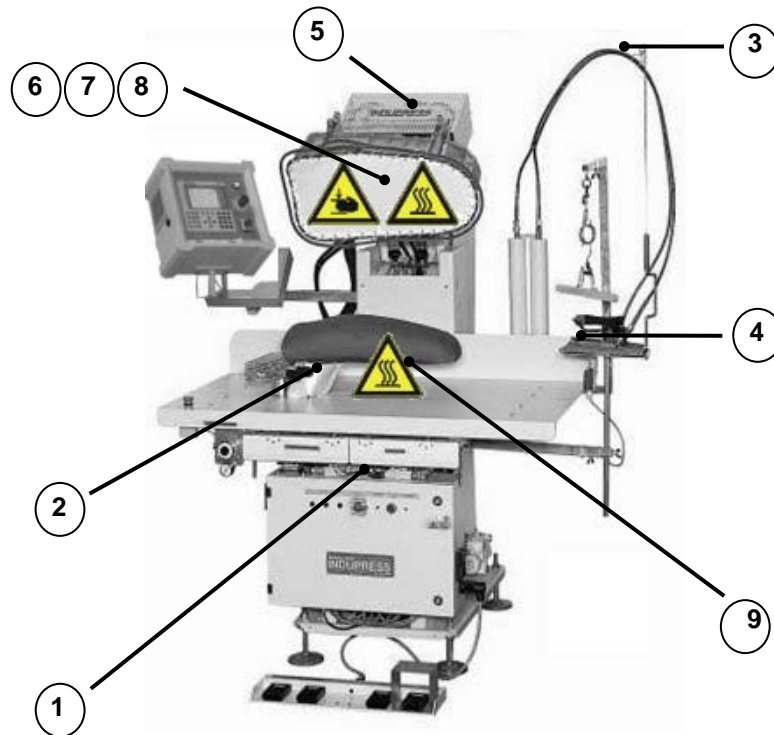
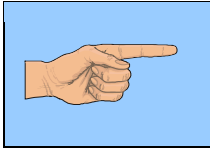


Fig. 8 Optional - pressing equipment (example)

Pos.	Item Name	Function
1	Switching knee bar	Operation of various machine functions with the knee bar.
2	Waistband clip	Exact clamping of the trousers before ironing.
3	Holding component	For hanging/holding the pressed garments
4	Iron with a safety iron rest (Sensor Monitored)	For the after treatment of the pressed garment
5	Vertical movement	Vertical lowering of the upper plate prevents moving of the textiles during the closing movement.
6	Upper plate vacuum	Drying the garment after the steam treatment.
7	Edge suction	Prevents the retaining of the moisture at the periphery of the iron shapes and improves the overall iron result.
8	Upper plate /steam	<ul style="list-style-type: none"> ■ Allows a steam / air mixture in the upper plate for gentle ironing. ■ Prevents the adhesion of textiles to the upper plate
9	Vacuum level	In several programmable power levels for gentle cooling.

3.2.4 Foot control pedals



Notice

Depending on your machine, the foot control pedals may not be the version shown below.

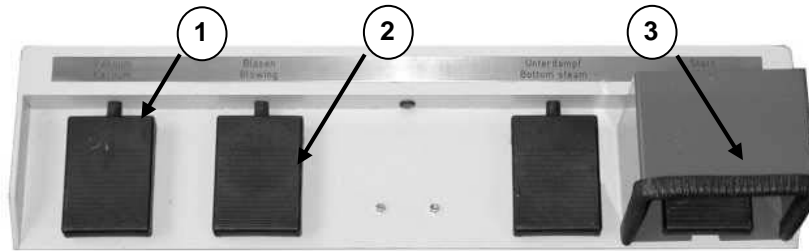


Fig. 9 Foot Control Pedals

All pedals have been individually designed for its respective machine. But they always have the same following basic structure:

Pos.	Item Name	Function
1	Labeling	The bilingual inscription above the pedals gives the unique function assigned to the pedal.
2	Pedal	Pushing of the pedal is accompanied by operation corresponding to this pedal.
3	Pedal "Start" (or alternatively, two-hand-start, see section 10.3.4 on page 47)	The pedal "Start" is usually on the right and always has a red safety cover. The pedal "Start" closes the machine and starts the program. It is 1- or 2-stage run.


3.2.4.1 Description of the most common pedal functions

Labelling	Function	Remark
Start (1-stage)	<ol style="list-style-type: none"> 1. Closes the machine 2. Starts the program and 3. Only for the computer controlled machine → the machine automatically opens. 	The foot control Pedal varies according to the machine and the Pedal stock.
Closing/Pressing (start 2-stage)	Hold on 1st stage drives the top plate to the created position. The steam valve opens depending on the machine used. Proceeding to the 2nd Level: <ol style="list-style-type: none"> 1. Starts the program and 2. The machine automatically opens. 	
Vacuum (switch)	Turning ON the vacuum of the Bottom Plate: 1x Switch = Vacuum ON 2x Switch = Vacuum OFF	The foot control Pedal varies according to the machine and the Pedal stock.
Vacuum (push button)	Turning ON the vacuum for the lower plate. The vacuum is switched ON only as long as the pedal is pressed.	
Waistband clamp Vacuum (switch)	1x switch = Waistband clamp closes 2x switch = Vacuum Starts 3x switch = Waistband clamp opens/Vacuum OFF	
Blowing (push button)	Blowing on the Bottom Plate ON / OFF. The function is switched ON only as long as the pedal is pressed.	
Under steam (push button)	Discharge of steam from the bottom. It will only be fed as long as steam pedal is pressed.	
Putting forward	<ul style="list-style-type: none"> ■ Several loading steps are necessary to make to the machine ready for operation. ■ The machine carries out the next corresponding step by pressing of the foot switch. 	
Putting backward	<ul style="list-style-type: none"> ■ Several loading steps are necessary for putting the machine out of operation. ■ Machine carries out the steps in the reverse order by pressing this foot switch. 	

3.2.4.2 Labeled variants of the pedal bar

Pedals/Release + Start:	Pedal/Vacuum:	Pedals/Loading + Peripherals:
Release	Vacuum	Putting in
Closing / Pressing	Vacuum L	Sleeve stretcher closing
Closing/ Head steam	Vacuum R	Stretching Frame
Start	Vacuum ON	Waistband stretcher
OPEN	Vacuum OFF	Sleeve Stretching Loosening
Closing / Start	Vacuum rear	Left
Close/Press.	Vacuum front	
Scissors Closing	Vacuum/ Holding bracket	Center
	Fix vacuum	Right
	Vacuum Right	
Pedals/Steam:	Vacuum Left	Putting Forward
Bottom Steam	Vacuum/ Holding Frame	Putting Backward
Head Steam	Vacuum/ Bracket	Trouser Holder
Sleeve Steam OFF	Vacuum/ Waistband stretcher	Hem Stretcher
Sleeve Steam	Vacuum/ Side part Stretcher	Sleeve Stretcher Loosening
Armhole Steam	Vacuum/ Stretching Frame	Sleeve Stretcher Closing
	Vacuum Lapel	Close Pressing plate
	Vacuum Lapel Facing	Holding Bracket
Pedals/Blowing:		Sword Opening
Blowing		Sword Stretching
Sleeve Blowing		On
Blowing L		Off
Blowing R		Holding Frame
Armhole Blowing		Stretch Template Holder
Body Blowing		Positioning
		Jacket Up
		Jacket Down
		Trouser stretcher


3.2.5 Knee switch bar



Notice

Depending on your machine, it can be equipped with a toggle switch panel. The caption on the knee switching bar tells you what function they serve.

Perhaps the depicted knee switching bar is not the same as the one on your machine. It varies as per the machine.



Notice

Depending upon the machine, the knee switching bar can be divided into two bars to serve two separate functions which can be executed in the respective order.

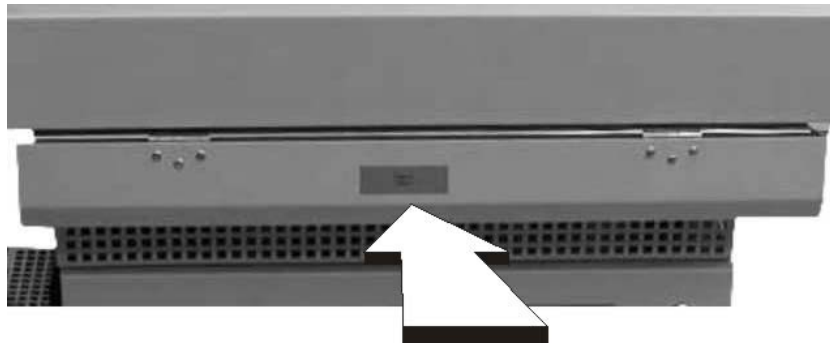


Fig. 10 Switch knee bar

The knee bar switch may serve the following functions:

Label	Function
Fix vacuum	<ul style="list-style-type: none"> ■ Fixing of the textile on the bottom plate before pressing by headplate. ■ For cooling the textiles after ironing ■ 1x switch = ON ■ 2x switch = OFF
Tap vacuum	<ul style="list-style-type: none"> ■ Fixing the textiles for manual ironing. ■ Cooling the textiles after manual ironing. ■ Press + Hold = ON ■ Release = OFF
Blowing	<ul style="list-style-type: none"> ■ Drying and Lifting of Textiles from the Form (Loosening the textile) ■ Press + Hold = ON ■ Release = OFF
Waistband clip	<ul style="list-style-type: none"> ■ Fixing the waistband in position by via a clip. ■ 1x switch = ON ■ 2x switch = OFF

3.3 Safety devices

3.3.1 Emergency Stop

- The pressing of the emergency stop button disconnects the output from the power supply → all the valves are shut off.
- The machine opens immediately.
- All of the controllers INDUMAT series (see Chapter Chapter 3.1.1/ page 9) also control the power supply separately → Black Screen.
- On machines with PP41-control (see Chapter Chapter 3.1.1/ page 9) the emergency stop option from the controls is displayed (Critical Error No. 01 machine, or nr.02) After the elimination of emergency
- Emergency stop buttons of latch type should be pulled out after emergency (see Fig: 11 to 12)
- Using the green button “Release” (See Fig. 15) at the controller or the electrical cabinet → unlock the machine so that it goes into the basic position, the main image/automatic mode is displayed.



Fig. 11 Example 1: Emergency Stop



Fig. 12 Example 2: Emergency Stop



Fig. 13 Example 3: Unlock button

3.3.2 Safety Framework

- On the actuation of the safety framework, the input energy supply to the machine is cut off from the power supply. All valves are shut off immediately.
- The machine opens immediately.
- All of the controllers INDUMAT series (see Chapter 3.1.1/ page 9) also control the power supply separately → Black Screen.
- On machines with PP41-control (see Chapter Chapter 3.1.1/ page 9), the emergency stop option from the controls is displayed (Critical Error No. 01 machine, or Nr.04)

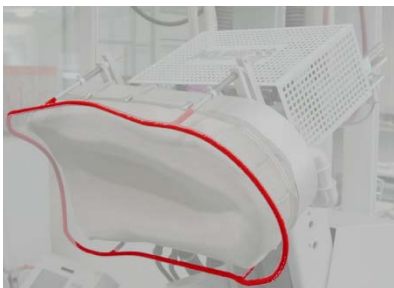


Fig. 14 Example 4: Safety frame



Fig. 15 Example 5: Unlock button

After error correction:

- Ensure that the safety framework is undamaged and all of its switches are mounted and operational.
- Using the green button “Release” (see Fig. 15) at the controller or the electrical cabinet → unlock the machine so that it goes into the basic position, the main image/automatic mode is displayed.

3.3.3 Safety light barrier

- Disrupting the light barrier causes the energy input to the machine to be cut off from the main power supply.
- The machine opens immediately.
- All of the controllers INDUMAT series (see Chapter 10.1.1 / page 37) also control the power supply separately → Black Screen.
- On machines with PP41-control (see Chapter 10.1.1 / page 37), the emergency stop option from the controls is displayed (Critical Error No. 01 machine, or nr.04)



Fig. 16 Example 6: Safety sensors



Fig. 17 Example 7: Release button

After error correction:

- Using the green button “Release” (See Fig. 15) at the controller or the electrical cabinet →unlock the machine so that it goes into the basic position, the main image/automatic mode is displayed.

3.3.4 Two-Hand-S tart

The two hand start buttons replaces the “start” button at the foot control pedal. These are located on certain machines for safety reasons where the loading of pressing garment requires the user to reach in area between the pressing plates and hence an accidental pushing of start button can be hazardous.

Hence with these two-hand-start buttons, operator is clear of pressing area and accidental pressing of the start pedal and its related consequences can safely be ruled out.

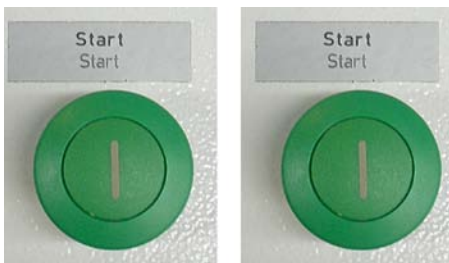
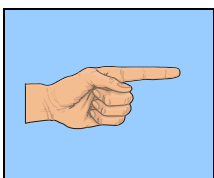


Fig. 18 Example 8: Two-Hand Start Button



Notice

The two buttons must be pressed and held simultaneously (time difference max. 0.5 sec), until the head plate is closed and the automatic control program starts with the finishing operation.

3.3.5 Safety iron rest

The Iron rest is equipped with a sensor to judge whether the iron is placed on the iron rest or not. The machine can only be closed if the iron is on the iron rest (sensor check).

Hence any accidents which can be caused by accidental pressing on start pedal while ironing the garment with the hand iron can be ruled out.



Fig. 19 Example 9: Safety Iron Rest

**Notice**

In all INDUPRESS® Machines, any attempt to start the finishing program with the iron not placed on the iron rest is followed by a error which is displayed on the display unit.

4 Description of the Control Unit PP41 / Normal operation

Notice

The PP41 control unit contains a variety of functions pertaining to the machine operation and are described in the following chapters.

All functions of the control unit, which are not described in the manual are not relevant with respect to operational control of the machine and are locked. These are only for INDUPRESS® staff usage!

4.1 Become familiar with the INDUMAT PP41

4.1.1 The Man-machine interface

In the following chapter you will get familiar with the Man-machine interface of the control unit PP41.

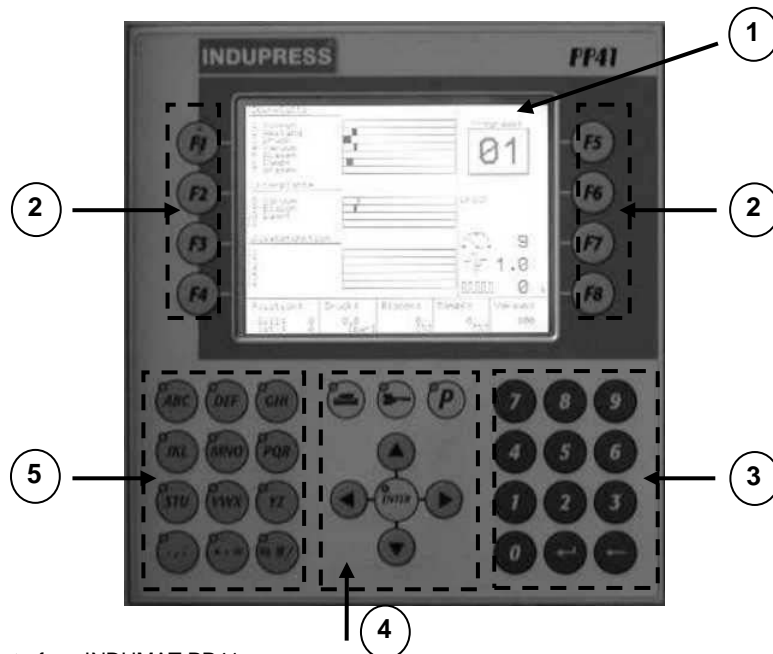


Fig. 20 Man-machine interface INDUMAT PP41

4.1.2 Overview Man-machine interface

On the Man-machine interface you will find the following items:

Pos.	Denotation	Function
1	Display	Visualisation of all machine functions.
2	Function keys „F1-F8“	Function keys for individual usage depending on the situation.
3	Number keys	Input of numbers and values into the control unit.
4	Navigation keys	These navigation keys are mainly for controlling the moment of the cursor.
5	Letter keys and spezial signs	Input of letters and words.

4.1.2.1 Comment to Pos. 2 - F1 – F8

The function keys „F1 – F8“ are individually programmed function keys. The function of these keys changes as per the displayed picture on the display.

If the function keys are in usage, you can get the information about the function of the keys by pressing F1 - info.

4.1.2.2 Comment to Pos. 3 - Number keys



The number keys are used for the selection of menu items or for the input of numbers and values. The keys are allocated as follows:

Key	Allocation
0 to 9	Every key for its respective number. Eg 0 for 0, 1 for 1 etc.,
↵	<p>Start or confirm with “↵”.</p> <ul style="list-style-type: none"> ■ Starts a function, which has been selected by the keys “◀▶▲▼” or ■ Confirms the entered input of a number or value. <p><i>Exception:</i> Entering the Program numbers or the numbers of menu items doesn't need confirmation.</p> <p>Sometimes the function of the key “↵” is similar to the function of the key “ENTER”.</p>
←	<p>Key “Backspace” – with pressing this button, the character on the left to the cursor or just behind it will be deleted.</p> <p>Several characters can be deleted by pressing of this key several times.</p>

4.1.2.3 Comment to Pos. 4 - Navigation keys

The navigation keys are use as follows:

Key	Allocation
▲▼	<ul style="list-style-type: none"> ■ Moving the cursor up and down in the menu ■ Browse through the programs or sequences (Actual program/sequence +1 or -1) ■ Increase or decrease a selected value
▶	<ul style="list-style-type: none"> ■ Select and start a menu item or function. ■ Increase or decrease a selected value <p>Select the program in a sequence.</p>
◀	<ul style="list-style-type: none"> ■ Back to previous menu ■ Increase or decrease a selected value
ENTER	<ul style="list-style-type: none"> ■ Start or confirm by „ENTER“ : ■ A function, that you have selected with the keys „◀▶▲▼“. ■ an input of a number or a value. <p>(...)</p>

	<p>Please consider the following :</p> <ul style="list-style-type: none"> ■ Sometimes the function of the key „↵.“ can be similar with the function of the key „ENTER“. ■ If there is any other function of the key „ENTER“,you will find its information as a footnote on the display.
	The pressing program, which is shown on the display, will be printed by the connected printer.
	Lock/unlock the control unit for modifications. For unlocking, please insert the Memory-Card or type in the master or mechanic code.
P	You can enter the menu system. Leads you back to the main picture.

Comment: You will find the actual allocation of the navigation keys on the lower edge of the chosen display.

4.1.2.4 Pos. 5 - Letter keys

With the letter keys you can enter letters. It's the following Allocation:

Key	Allocation
A till Z	<p>All letters, which are written on the individual keys, can be activated by pressing the key once, twice or three times quickly. If you press a letter key once, you write the first letter from left. If you press a letter key twice you write the centre letter. If you press a letter key three times, the right letter will be written.</p> <p>E.g. : <i>After pressing the Key „ABC“ once, the letter „A“ will appear on the display.</i> <i>After pressing the Key „ABC“ three times, the letter „C“ will appear on the display.</i></p>
∴ + = * # /	<p>All special signs, which are written on the individual key can be activated by pressing the key once, twice or three times quickly. To write one of the special signs, you can go on like in the illustration above, for the Letters from “A to Z”.</p>

Comment: After entering a symbol the cursor moves after approx. 3 sec to the next place. You also can move the cursor with the key „▶“.

4.1.3 Menu systems


The drawing of the menu system takes place here.

The size is DIN-A3, consequently this page have to be included separately.

4.1.4 Allocation of the Keys F1 – F8

Here you'll find the allocation for the function keys F1 – F8 for:

- the normal operation
- the movement in the sub-menus and
- the programming mode

	<p>Notice</p> <p>The function keys are called „free programmable softkeys“. So the allocation of the keys can change during motion through the different menu items/screen</p> <p>Therefore we only can inform you about general instructions of allocation of the function keys. You'll always find special information on the actual used display.</p>
---	---

4.1.4.1 F1 (help menu)

With key F1 you'll always get the help menu (in normal operation mode). Here you'll find the information about allocation of the keys and more online help for the normal operation.

Comment:







With key „P“ you can leave the help menu.

With using one of the described keys F1-F8 in help menu, the function will start.



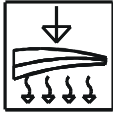


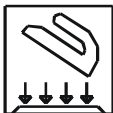

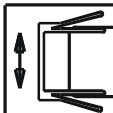
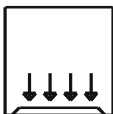
Fig. 21 Help - Keys F1 – F4

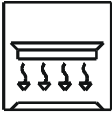

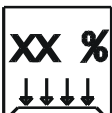
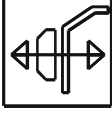
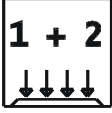

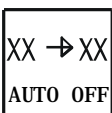
4.1.4.2 Allocation in the main picture

Key	Function				
F1	Pressing F1 once – <i>calls the help-menu</i> Pressing F1 twice – <i>calls the info-picture</i>				
F2	Calls the actual production data of the machine : <ul style="list-style-type: none"> ■ total number of operations (since reset) ■ number of operations depending on the individual programs (since reset) 				
F3	Calls the menu “machine adjustment”. Aontents : <ul style="list-style-type: none"> ■ Submenu : brightness adjustment ■ Submenu : step mode ■ Subemenu : automatic reference mode 				
F4	<p><i>Only series : IPN-VH, IPN-VHD, IPN-VD, IPN-VCD</i> <i>(Parameters : Manual pressing)</i> Here you can adjust the approaching and pressing parameter for the manual pressing mode.</p> <p><i>Only series IPN-ULD-23-15B/C</i> <i>(Pressure pre-selection/sleeve shape)</i> Here you can adjust the first and the second pressure for tightening the jacket sleeve on the sleeve shape while loading</p> <p><i>Only series IPN-SG-23</i> <i>(Parameters : Pressure/Closing Headplate + Pressure/Sponging)</i> Here you can : <ul style="list-style-type: none"> ■ Adjust the closing pressure of the headplate till the program starts. ■ Adjust the pressure which is used for the sponging movement (up-and down). ■ So higher the pressure is so higher the speed and the stroke of the movement is. </p>				
F5	Changeover between program mode and sequence mode..				
F6	<p><i>Only IPN-K84 carousel pressing machines, shoulder pressing machines and IPN-SGV pressing machines (optional)</i> Changeover to „master-slave mode“ for pressing machines with two pressing devices and cooperative mode of two machines with one control unit.</p>				
F7	<p>Calls the menu: „settings and special functions“</p> <p><i>Comment:</i> The special functions are not valid for all of the programs – these functions are usable only for some program. E.g.: You can use one of the functions or settings only for program 03. For the other programs, this function is switched off.</p>				
F8	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; vertical-align: middle;">  </td> <td style="text-align: center; background-color: yellow;">  CAUTION! </td> </tr> <tr> <td colspan="2"> <p>Depending on the machine type, some of the safety features could be out of action. Please keep distance to the moving parts of the machine, especially to the pressing plates!</p> </td> </tr> </table> <p>The machine will be closed stepwise until the two pressing plates are touching. Please follow the explanations on the display regarding the closing of the pressing device for changing the headplate cover material.</p>		 CAUTION!	<p>Depending on the machine type, some of the safety features could be out of action. Please keep distance to the moving parts of the machine, especially to the pressing plates!</p>	
	 CAUTION!				
<p>Depending on the machine type, some of the safety features could be out of action. Please keep distance to the moving parts of the machine, especially to the pressing plates!</p>					

4.1.4.3 Allocation of F1-F8 in the sub menu: Settings + special functions

In menu „Settings and special functions“ different functions of keys F1-F8 are shown as symbols (Icons). The real allocation of keys F1-F8 is specific to the machine and can vary. The meanings of the possible Icons used are as follow:

Key	Icon	Function
F2		<p>Headplate extension ON/OFF</p> <p><i>Description:</i> Activates the headplate extension for 3/4-button jackets. <i>Icon not inverted („OFF“)</i> Only the main headplate is pressing now. The headplate extension works as exterior steam suction for the headplate (controlled by track number 7). <i>Icon inverted („ON“)</i> The main headplate is now pressing together with the headplate extension. An additional vacuum pipe on the exterior steam suction works now on track 7.</p>
F2		<p>Blowing/vacuum on the bottomplate, activated by the switch on the iron rest is OFF now.</p>
F2		<p>Blowing on the bottomplate, activated by the switch on the iron rest is ON now.</p> <p><i>Description:</i> Lift the iron: Blowing on the bottomplate starts with this. Rest the Iron: Blowing on the bottomplate Stopps with this.</p>
F2		<p>Vacuum on the bottomplate, activated by the switch on the iron rest is ON now.</p> <p><i>Description:</i> Lift the iron: Vacuum on the bottomplate starts with this. Rest the Iron: Vacuum on the bottomplate Stopps with this.</p>
F2		<p>Displays the pressures in big letters instead of the pressing program.</p> <p><i>Description:</i> Only the different pressures, which are working during the program, are shown on the display instead of the tracks.</p>
F3		<p>Waistband clip ON/OFF</p> <p><i>Description:</i> OFF:Waistband clip stays in the lower position with open clips. ON:: Waistband clip stays in the upper position with open clips. The clips can be closed by the pedal and/or by the knee-switch.</p> <p><i>Note:</i> If you have programs where you can't use waistband clip, you better switch it off. The handling mostly becomes easier then.</p>
F3		<p>Final Vacuum ON/OFF Only series : All carousel pressing machines, IPN-LKV and IPN-SGV-23-19</p>

		<p><i>Description:</i> With activated final vacuum, the machine starts the vacuum valves at the end of the pressing program.</p> <p><i>Note:</i> The vacuum stops after 30 seconds or in the loading/unloading position.</p>
F3		<p>Pre-steaming before the program starts ON/OFF</p> <p><i>Description :</i> If necessary you can pre-steam the fabric before the program start. The steam will be activated in the approaching position.</p>
F3		<p>Automatic pressure OFF at the sleeve shape after program has ended.</p> <p><i>Description:</i> ON: Sleeve shape and armhole clip are opened at the end of the program. OFF: Sleeve shape and armhole clip are opened with unloading of the jacket.</p>
F4		<p>Fix-vacuum/final vacuum – power adjustment:</p> <p><i>Description:</i> On empty or not used program locations the pre-adjusted value is 25%. Everytime you press F7, the value is changing in steps of 25%.</p>
F4		<p>Armhole clip ON/OFF:</p> <p><i>Description:</i> If the sleeve top at jackets is shaped in shirt-style, you can switch off this clip for better operation.</p>
F5		<p>Only for machines with splitted bottomplate vacuum-chambers.</p> <p>Common vacuum ON/OFF:</p> <p><i>Description:</i> Both bottomplate vacuum valves will be switched on by pressing the vacuum pedal once.</p>
F6		<p>Unloading unit ON/OFF.</p> <p><i>Description:</i> The unloading unit unloads the pressing device after the pressing operation has finished.</p>
F7		<p>Only IPN-K84 carousel pressing machines, shoulder pressing machines and IPN-SGV pressing machines (optional)</p> <p><i>Master-slave mode interruption ON/OFF:</i></p> <p><i>Description:</i> Interrupts the automatic program take-over. ON: The same pressing program is set for operation on both pressing devices. OFF: Automatic program take-over is Activated - you select only the master-program.</p>

4.1.5 Master-slave-mode

Here you shall be informed about the meaning of Master-slave-mode and how to start it.

4.1.5.1 When do we need the master-slave mode?

This mode is only needed if :

- Two pressing machines or
- Pressing machines with two separately working pressing devices, using the same program pool – e.g. one set of machines for forepart final pressing = two machines with mirrored forepart shapes.

are to be controlled by one control.

4.1.5.2 What is the function of this mode?

In the master-slave-mode you'll see only the numbers of pressing programs with the relevant time parameters which are active on both pressing machines.

The arrows are signs for the processing direction: Arrows from the left to the right means, the left pressing device is pressing first and is therefore the master device.

Comment:

With pressing key „F5“ you can change the symbolized processing direction. The master device will change to the other side. Therefore the direction of the program take-over is also changing.

Thus, with this, you can adapt the machines to fit to the required processing direction of your production line

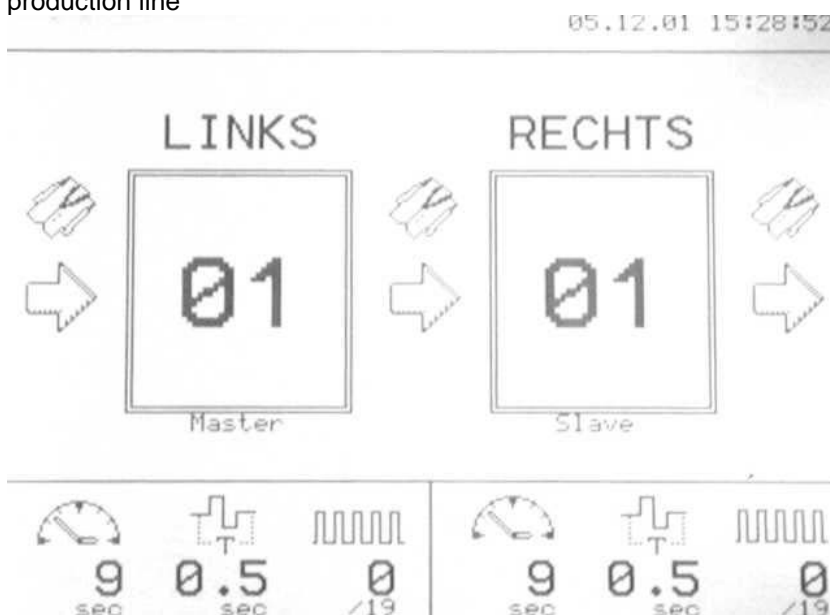


Fig. 22 Master-slave-mode

4.1.5.3 The program take-over

The take-over of programs from master to slave pressing machine /device will be automatic. After pressing the fabric in the master pressing machine the program will be sent to the slave pressing machine. So you have an easy possibility to press mirrored parts by one control unit and the same pressing program.

Example:

You would like to press both foreparts of a jacket with the same program. But the foreparts are mirrored. Therefore you need two pressing devices with mirrored shapes with same program. So that with the first pressing machine, you can press the right forepart and with the second pressing machine, the left forepart.

4.1.5.4 Calling the master-slave modecalling

You can call the master-slave mode as follow:

Step	Action	Image
1	Call the infomenu in the main picture by pressing F1.	
2	Call the master-slave mode by pressing key F6	
3	Call the program you want to press with. This program will be taken over to the second pressing device, after it has finished pressing on pressing device-one.	
4	To exit the master-slave mode, please press F6 again.	

4.2 Basic functions

Here you'll find the necessary information about the configuration of the control and the menu-system.

4.2.1 How to check the safety circuitcheck

Here you'll find information on how to control the safety circuit.

What is the Purpose?

The safety circuit ensures a quick shut-down of the machine in case of emergency. To find any malfunctions in the safety circuit (inevitable with time), it should be checked regular cycles.

When do we check?

At every reboot of the controller, the safety circuit is rechecked. You only have to activate the relevant safety items before operation on the machine.

Checking the safety circuit

If you see the request on the display, then hit:

- 1 x the emergency stop and
- 1 x the headguard frame.

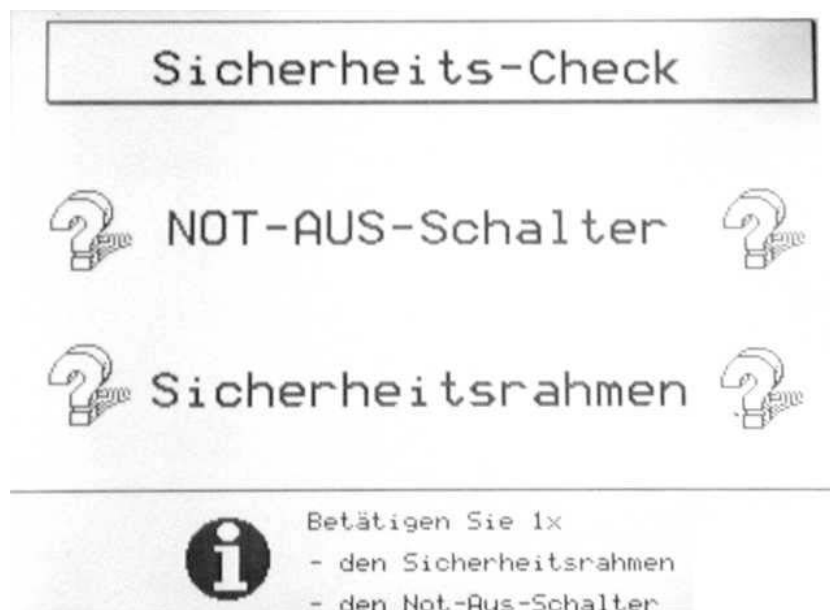


Fig. 23 Safety circuit

Completing the check

If the check is successful, the controller automatically shows the main screen.


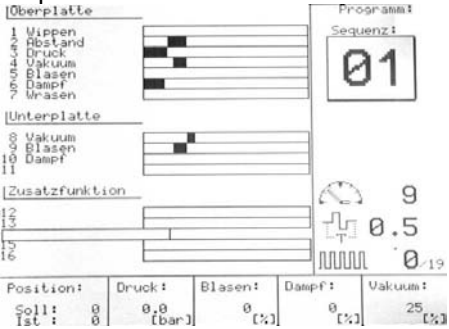
What if ...	The resulting image ...
<p>an error occurred,</p>	<p>is the error message.</p>  <p><i>Comment:</i> Solve the problem if possible, or call the supervisor.</p>
<p>the safety check is passed successfully,</p>	<p>is the main screen, showing the pressing program or the pressing sequence.</p> 

Fig. 24 Error message

Comment to error message

You'll also see the error message if the safety circuit is prompted by pushing:

- the emergency stop or
- the headguard frame

during the operation on the machine.

After test/error message

You have to press "release" button before you can continue working on the machine.

4.2.2 How to call the machine related /software data

Here you'll find the necessary information on how to obtain the machine related data and software version.

What do we need the data for?

For a quick dealing with your requests, INDUPRESS® provides you with the data of the machine and the software version. So that before contacting us, you obtain the data of the controller/machine.

Before starting...

Before you can enter the service-code, you have to switch off:

- the machine with the main switch. (Position of switch "0")


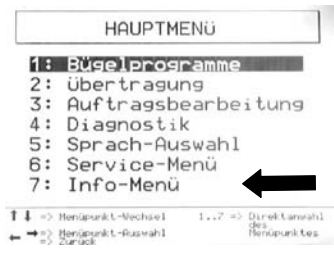

How to call the data

Call the data as follows:

Possibility 1:

Press in main menu the key "F1" twice.

Possibility 2:

Step	Action	Image
1	Press the key "P" to enter the main menu.	
2	Press the number key 7 to enter the info menu. <i>Comment:</i> You can also select this menu item by using the navigation keys.	
3	In this info-menu you find all the necessary informations to describe the machine in a sufficient manner to the INDUPRESS® hotline for troubleshooting.	
4	Press the key "P" to go back to the main picture.	

4.2.3 How to unlock the controller (using the service code)

Here you'll find the information on how to enter the Service-Code into the controller.

What do we need the service code for?

The control can be protected for unauthorized access by an unalterable service-code. Therefore you have to “unlock” the controller through a service-code before you can start any modifications.





Before starting




Before you can enter the service-code you have to switch off:

- the machine with the main switch (Position of switch “0”)

4.2.3.1 How to input the service code

Enter the Service-Code as follows:

Step	Action	Image
1	Open the control cabinet by using the relevant door-key. The key is part of the machine equipment.	
2	Plug the memory-card, which is with the machine into the card slot. The control unit is unlocked as long as the card is plugged in. <i>Comment:</i> The LED inside the key “  ” is highlighted as long as the machine is unlocked.	
3	Close the control cabinet with the key.	

4	Switch the main switch ON (Position "1").	
5	Pass the safety check..	
6	Press the green button to release the control voltage.	

Please pay attention!

- The control is enabled as long the Memory Card is inserted.
- Before you pull out the Memory card always switch off the machine and the main switch!

4.2.4 How to define/use the mechanic code

Here you'll find all the information on how to define, change or enter the Mechanic-Code.

What for do we need a mechanic code for?

The controller is protected for unauthorized access by a variable mechanic-code. With this code you've access to only those sections of the controller which are important for mechanists.


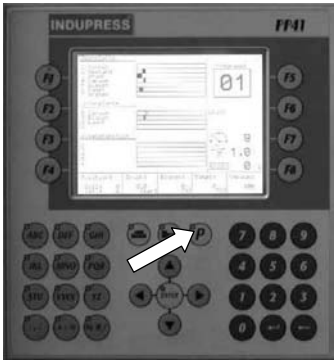
Before we start...

Before you can define the mechanic-code, the control must be ON, the main picture must be visible on the display and the control must be unlocked by inserting the Memory-Card.






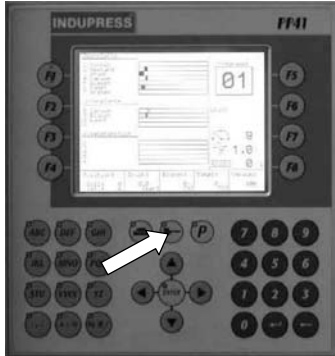
How to define the Mechanic- code

You can define and change the Mechanic-Code as follows:

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Press the number key 6 to enter the submenu: "Service menu". Comment: You can also select the menu item by using the navigation keys.	
3	Press the number key 6 to enter the submenu: "Basic data". Comment: You can also select the menu item by using the navigation keys.	
4	Now we start creating the mechanic code: Write a 5 character code by using the letter or number keys.	

5	Confirm your input with the key "ENTER".	 A photograph of the INDUPRESS PP41 control unit. The screen displays a menu with the number '01' in the top right corner. A white arrow points to the 'ENTER' key, which is a small square button with a downward-pointing arrow, located in the center of the numeric keypad.
6	Press the key P to go back to the main picture.	 A photograph of the INDUPRESS PP41 control unit. The screen displays the same menu as in the previous image. A white arrow points to the 'P' key, which is a circular button with the letter 'P' on it, located to the right of the numeric keypad.

4.2.4.1 Unlock the control with the mechanic-code as follows:

Step	Action	Image
1	<p>Please press the key “  </p>	
2	<p>Please write the new mechanic code into the text box.</p>	
3	<p>Confirm your input with the key “ENTER”.</p>	
4	<p>The control unit automatically jumps back to the main picture.</p> <p><i>Comment:</i> The LED inside the key “  </p>	

4.2.5 Choosing the language

Here you'll find the necessary information to set the requested language for the control.

Before starting

Before you can change the language the control must be ON, the main picture must be visible on the display and the control must be unlocked by inserting the Memory-Card.

Available languages

You can choose the following languages:

Code-No.	Language
1	German
2	English
3	French
4	Spanish
5	Turkish
6	Russian
7	Polish
8	Romanian
Or .	
1	German
2	English
3	Chinese
Or .	
1	German
2	English
3	Farsi

4.2.5.1 Choosing the language

You can choose the languages:

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Press the number key 5 to enter the sub menu: "Choose language". Comment: You can also select the menu item by using the navigation keys.	
3	Choose the language by using the navigation keys "▲▼". Comment: With choosing this submenu a list with 8 languages appears on the display. You can now select the desired language out of the 8 available languages by using the navigation keys "▲▼".	
4	Confirm your input with the key "ENTER". The Man-machine interface appears now in the chosen language.	





4.2.6 Date and time settings

Before starting:

Before you can set the date and time, the controller must be ON, the picture must be visible on the display and the control must be unlocked by inserting a Memory-Card.

How to set date and time

Set date and time as follows:

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Press the number key 6 to enter the sub menu : "Service-menu" <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key 5 to enter the submenu: "Date/time". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
4	1st Select Year, month, day, hour, by the navigation keys. 2nd Enter the new value via the number keys. 3rd Confirm your input with the key "↵".	
5	Press the key P to go back to the main picture. Date and time are now stored in memory.	

4.2.7 Brightness settings

Here you'll find the information on how to set the brightness of the display.

Why do we need the brightness setting?

Due to the unfavourable visibility sometimes, it becomes necessary to set the brightness of the monitor new, thereby you can see the Fig.s/readings on the display correct.

Comment:

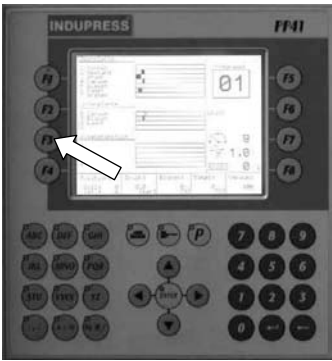
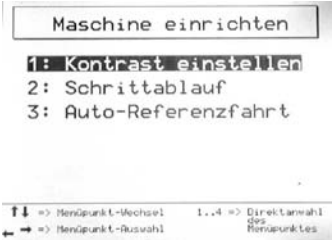
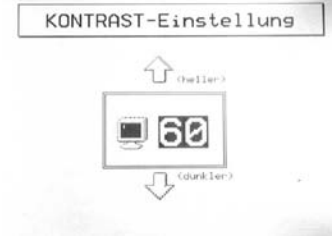
Alternatively you can set the brightness in the “service-menu – machine setting”. There, you must unlock the control by entering the Service-Code.

Before starting

Before you can set the brightness the control must be ON and the main picture must be visible on the display

How to set the brightness

Set the brightness as follows:

Step	Action	Image
1	Press the function key F3 to enter the submenu : “Machine adjustment”	
2	Press the number key 1 to enter the submenu : “Brightness adjustment” <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Increase or decrease the appearing value by using the navigation keys “▲▼” until you have got the required brightness. <i>Comment:</i> The pre-adjusted brightness value is “60”.	
4	Press the key P to go back to the main picture.	

4.2.8 How to call the production data




Here you'll find the information on how to call the information pertaining to the working hours, the produced pieces on the display.

Before starting:

Before you can call the production data the control must be ON and the main screen must be visible on the display.

How to call the production data

You can check the operation counter as follows:

Step	Action	Image
1	<p>With pressing F5 you can switch between the program and the sequence mode.</p> <p>Consequently you can call the production data for the respective mode, depending what has been chosen by F5.</p>	
2	<p>Press the function key F2 to call the production data.</p>	
3	<p>Now you can read the following data on the display :</p> <ul style="list-style-type: none"> ■ Date and time ■ The total amount of operations since the last reset. ■ The individual amount of operations per program since the last reset. <p><i>Comment:</i> You can switch between individual program counters by using the navigation keys up and down.</p>	 <p>F6 = Reset the 'total Counter'</p> <p>F7 = Reset the 'individual program counter'</p>
4	<p>Press the key P to go back to the main picture.</p>	

4.2.9 How to use the covering mode

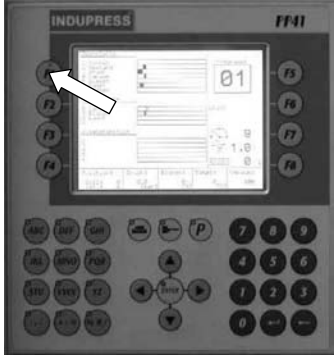
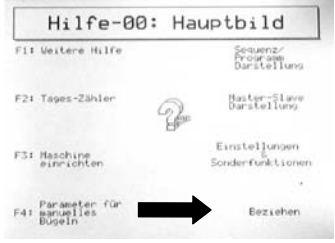
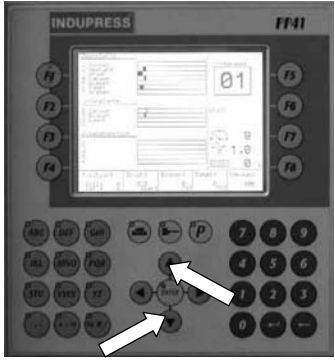
Here you'll find the information on how you can use the covering mode to change the headplate cover material.



Before starting

- Before you can cover the pressing shapes you have to run up the control in the right way. But you don't have to unlock the control.
- At machine equipped with master-slave-mode you must change the master to the pressing device for which you would like to change the headplate cover material.

How to use the covering mode

Cover the shapes as follows:

Step	Action	Image
1	Call the infomenu in the main picture by pressing the function key F1.	
2	Call the covering mode by pressing F8 "Covering mode". The covering mode starts with the message: The process starts with pressing F8–keep distance from the machine. <i>Comment:</i> Now you can move bottom/head plate in pressing position by pressing F8 again.	
3	Now you can lift and drop the headplate with the navigation keys "▲▼", After you have made the head plate go to the bottom plate, loose the cover material at the headplate	
4	Change the old cover material against new headplate covers.	

<p>5</p>	<p>Now you can press the head plate onto the bottom plate with the navigation key "▼".</p> <p><i>Comment:</i> The pressure you are using to press the head- onto bottomplate should be approx. 3.0 bar.</p>	
<p>6</p>	<p>Fix the new headplate cover on the headplate.</p>	
<p>7</p>	<p>If you have completed the procedure, press the function key F7 to go back to the main screen.</p>	

4.2.10 How to use the automatic reference

Here you will find all necessary informations about the automatic reference – this function is very important after a change of the cover material.



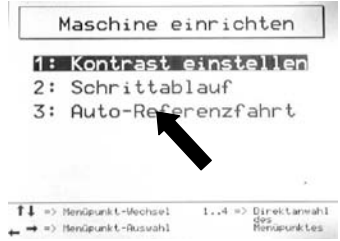
What is the automatic reference?

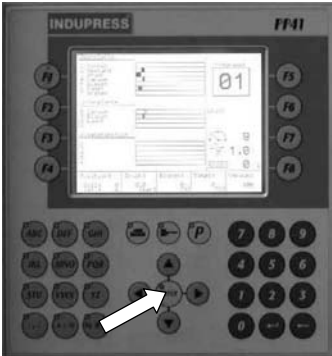
There are two important parameters that are going to be set during the automatic reference.

- The ZERO-position of the headplate – this must be adjusted after every change of the cover material to guarantee an exact positioning of the headplate. Repeating this procedure in weekly cycles guarantees also a constant pressing quality.
- The counter-pressure for the Headplate – here we adjust the pressure which is necessary to neutralize the weight of the headplate. This pressure is also important to guarantee an accurate movement of the headplate.

The automatic reference

Please start the automatic reference as follows:

Step	Action	Image
1	Call the infomenu in the main picture by pressing the function key F1	
2	Call the submenu by pressing F3 "Machine adjustment".	
3	Press the number key "3" to call the automatic reference.	

<p>4</p>	<p>Press the key "ENTER" to start the automatic reference.</p>	
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Comment:

The control is automatically switches back to the main screen after the automatic reference has ended.

You can interrupt the automatic reference by pressing the "ENTER" key.

4.2.11 How to use the step-by-step mode

What is the step-by-step mode used for?

To setup the machine or to fix malfunctions, it may become necessary to start a pressing program in this mode to check the individual functions of the program stepwise, controlled with the navigation keys.

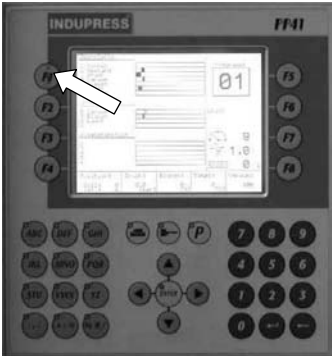

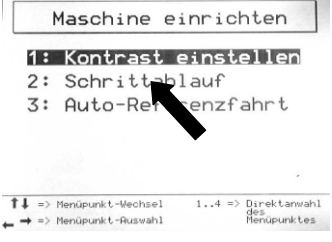
The Step-by-step mode gives the possibility to control the time steps of the pressing-program with the navigation keys “◀▶”.




Before starting.

Before you can start the step-by-step mode, the control must be ON and the main picture must be visible on the display.

How to start the step-by-step mode


Please start the Step-by-step mode as follows:

Step	Action	Image
1	Call the infomenu in the main picture by pressing the function key F1.	
2	Call the submenu by pressing F3 “Machine adjustment”.	
3	Press the number key “2” to call the step-by-step mode.	

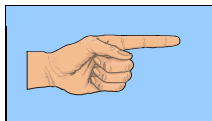
	<p>Start the step-by-step mode by pressing the navigation key “▶”. Go back to the submenu “Machine adjustment” by pressing the navigation key “◀”</p> <p><i>Comment:</i> After you have started the step-by-step mode, the main screen appears on the display.</p>	
<p>4</p>	<p>Start the machine in the normal way with the start pedal.</p> <p><i>Comment:</i> The machine closes and waits in the first step of the program.</p>	
<p>5</p>	<p>With the navigation keys “◀▶” you can move the time cursor through the program.</p>	

4.2.11.1 How to quit the step-by-step mode

Quit the step-by-step mode as follows:

Step	Action	Image
<p>1</p>	<p>In the running mode, you can use the key “ENTER” to interrupt .</p> <p><i>Comment:</i> The machine moves into initial position but stay in the step-by-step mode.</p>	
<p>2</p>	<p>If you press the key “ENTER” when the machine is in initial position, you quit the step-by-step mode with this. The main screen is shown in the normal mode; the program starts automatically by the pressing of the start pedal.</p>	

4.2.12 Manual pressing



Only for machines equipped with foot pedal “Closing/Head steam”.
(Information on manual pressing)

Description for manual pressing

The control unit gives you the possibility to press the textiles manually. In this case there is no pressing program running. The textiles will be pressed by pressing the foot pedal “Closing/Headsteam”

To press manually, you have to set three necessary parameters.


Before starting

Before you can start the manual pressing mode, the control must be ON and the main picture must be visible on the display.

Input of the Parameters

Start entering the parameter as follows:

Step	Action	Image
1	Call the submenu “Manual pressing” with the function key F4.	
2	Choose the parameter you want to put in with the navigation keys “▲▼”. <i>Comment:</i> The black arrow shows you which parameter is selected for modification.	
3	Increase or decrease the individual value as per your needs with the navigation keys “◀▶”.	

4	Press the key P to enter the main menu.	
---	---	--

Manual Pressing

You can start the manual pressing by activating the two-step foot pedal “Closing/Headsteam”. The pressing operation will run now in the following steps:

1. Step/pedal: Approaching (distance) + steaming
 2. Step/pedal: Pressing + steaming
- Release pedal: Device opens + steaming stops

4.3 How to create the Pressing Programs

In this section you'll find all necessary information to create and work with pressing programs.

4.3.1 Configuration of pressing programs

Here you'll find basic informations about the configuration of pressing programs.

What's a pressing program?

The pressing program is necessary for the automatic pressing. It contains all the necessary working procedures which have to be done by the machine, to get the required pressing result.

Different parts of the pressing program ?

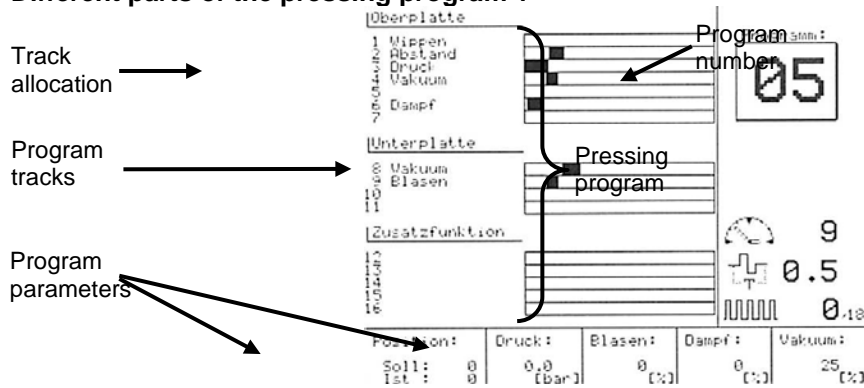


Fig. 25 Pressing program

Important components of a pressing program

For a functional program you have to program the following components:

Components	Function	Example
Program track	Duration of an individual function scaled in individual time cycles. One time cycle can last between 0,1 and 9,9 seconds.	The track "pressure" is switched on for 15 time cycles. One time cycle lasts 0.5 seconds. Therefore the track "pressure" will last 7,5 seconds.
Parameter	Values for : <ul style="list-style-type: none"> ■ Time cycle [sec] ■ Pressure [bar] ■ Distance [inc] ■ Steam [%] ■ Vacuum [%] ■ Blowing [%]. 	Time cycle = 0,5 sec Pressure = 2,5 bar Distance = 20 inc Steam = 40 % Vacuum = 50% Blowing = 80%

Parameter and adjustment ranges

You can program the parameter freely within the following ranges according to the equipment of the machines

Parameter	Range	Min. unit
Time cycle [sec]	0,1 – 9,9 sec	0,1 sec
Pressure [bar]	0 – 6 bar	0,1 bar
Distance [inc]	0 – 99 inc	1 inc ≈ 1 mm
Head steam	Proportional steam: 10 – 100 % Step-steam: 40 %, 60 %, 100 %	Proportional steam: 1 % Step steam: 20% btw. 40 %
Vacuum	0 – 100 %	25 %
Headblowing	10 - 100 %	1 %

Track Allocation

The available program tracks are designated with the relevant function.

Comment:

The order and the parameters of the tracks are distinguished and depend on the machine and the machine equipment.

Track Allocation (Continuation)

Allocation	Function
Headplate:	
Up+down	Up+down movement of the headplate(oscillating movement).
Distance	Approching to a distance between head and bottom plate.
Pressure	Pressure between head and bottom plate.
Vacuum	Drying and cooling of the pressed fabrics. This function could be combined with "bottomplate blowing".
Blowing	Steam/Air mixture for a mild pressing.
Steam	Steaming the fabric during the pressing procedure.
Steam suction (Edge-vacuum)	Protects the fabric at the edge of the pressing plates from the steam over exposure and its consequence is - wrinkling
Bottomplate:	
Vacuum	Before pressing: To fix the fabric at the bottomplate. After pressing: To cool the fabrics.
Blowing	To cool and dry the fabrics after pressing
Steam	Steaming the fabrics during the pressing procedure.

4.3.2 Table of content: pressing programs

Here you'll get the information how to call the actual "table of content: pressing programs" of all existing pressing programs on you control unit.

Supplied programs

The machines will be already delivered by INDUPRESS® according to their equipment with several programs (3-7 pcs.). The follow rules are valid for these programs:

- They are placed preferably on the program locations 01-07.
- They can't be changed or deleted.




Before starting...



Before you can call the actual "table of content: pressing programs" :

- the control must be ON and the main picture/program must be visible on the display
- the control must be unlocked by the inserted Memory-Card.

How to call the actual "table of content: pressing programs"

You can call the table of content as follows:

Step	Action	Image
1	Press the key P to enter the mainmenu.	
2	Call the submenu "processing programs" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Call the submenu "table of content" with the number key "2". <i>Comment:</i> You can also select the menu item by using the navigation keys.	

<p>4</p>	<p>In the table of content you can see the occupied program locations and the designations of the individual programs. The occupied locations are shown inverted.</p> <p><i>Comment:</i> There are 30 program locations existing at max.</p>	
<p>5</p>	<p>Back to the main picture with key "P".</p>	

4.3.3 How to edit a pressing program

Here you'll learn how to write/edit a pressing program.

Before starting:

Before you can create a pressing program:

- the control must be ON and the main picture/program must be visible on the display
- the control must be unlocked by inserting a Memory-Card.

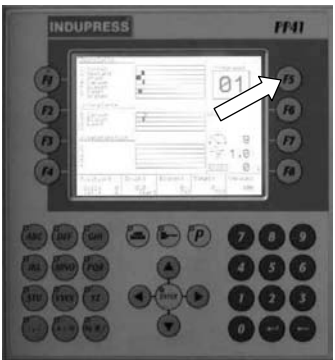
Function keys F1-F8




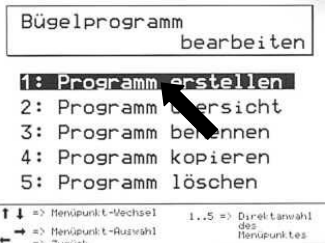
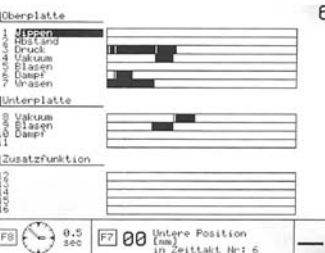
In program-mode the function keys F1-F8 are allocated as follows:

Key	Function
F1	Calls the help-menu
F2-F4	Not in use
F5	Delete time-cycle
F6	Insert time cycle
F7	Change/Input of parameters
F8	Time cycle setting

4.3.3.1 How to call the program editor

Call the program editor as follows:


Step	Action	Image
1	With the function key F5 you can switch between program- and sequence- mode – make sure that you are in the program- mode now.	

<p>2</p>	<p>Call the program you want to edit with the navigation keys “▲▼”.</p> <p><i>Comment:</i> Make sure that this program location is free – no tracks are programmed.</p>	
<p>3</p>	<p>Press the key P to enter the main menu.</p>	
<p>4</p>	<p>Call the submenu “processing programs” with number key “1”.</p> <p><i>Comment:</i> You can also select this menu item by using the navigation keys.</p>	
<p>5</p>	<p>Call the submenu “pressing programs” with number key “1”.</p> <p><i>Comment:</i> You can also select the menu item by using the navigation keys.</p>	
<p>6</p>	<p>Now you are in the program editor for the program location you have chosen in <i>step 2</i>.</p>	

4.3.3.2 How to edit a pressing program

Create the pressing program as follows:

Step	Action	Image
1	<p>Choose the track you want to program with the navigation keys.</p> <p><i>Comment:</i> The designation of the chosen track is shown highlighted.</p>	
2	<p>Choose the time cycle where the track should start with the navigation keys “◀▶”</p> <p><i>Comment:</i> If you press the navigation keys ◀ and ▶ you can see a vertical line moving the same way with the respective keys – this is the cursor that signs the actual time cycle.</p>	
3	<p>With pressing the key “ENTER” you can switch ON the relevant track.</p> <p>The time cycle of the track is now drawn in black.</p>	
4	<p>If you move the cursor with the navigation keys “◀▶” left and right on the track, the area left and right of the cursor is also drawn black.</p> <p>This part of the track is now programmed and shows the start, the duration and the stop of the function. Move the cursor along the track until the desired duration is achieved.</p>	
5	<p>Choose the next track that needs to be programmed by moving the navigation keys “▲▼”.</p>	

<p>6</p>	<p>Go back to the main picture with key “P”.</p> <p><i>Comment:</i> With this the program will be stored in the control.</p>	
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Comment:

You can program several operating time cycles (black bars) within one track, if you repeat the a. m. operation at other positions.

Therefore you can switch on/off the programmer mode with the key “ENTER” and start it again on another place in the track the second time.

4.3.3.3 How to programme the track parameters

To guarantee a proper working pressing program, you must program the relevant parameter for the individual track.

In the next chapter you’ll find the information on how to program the track parameters.

4.3.3.4 How to delete a programmed trackdelete

To delete a programmed track, please proceed as follow:

Step	Action	Image
1	Choose the track that should be deleted partial or total with the navigation keys “▲▼”. <i>Comment:</i> The designation of the chosen track is shown highlighted.	
2	Place the cursor in the chosen track on the time cycle where you want to delete from by using the navigation keys “◀▶”.	
3	With pressing the key “ENTER” you can now switch off/delete the track.	
4	By moving the cursor with the navigation keys “◀▶” along the track you can delete the track at the time cycles that you want to be OFF.	

Comment:

With pressing key “ENTER” once again, the write mode is activated again.

If you leave this track the write function of the cursor is relocated to neutral. You activate/deactivate the write mode with the key “ENTER”.

4.3.4 How to set the parameters setting

Here you'll find the informations on how to program the track parameters.

What do we need the parameters for?

For a good pressing result, the track parameters are of the same importance as the operation time of the individual track. The parameters range and unit are according to the individual track functions like pressure, steam etc. We can program the individual track parameters in the following steps.

4.3.4.1 Possible parameters

You can program the following parameter:

Parameter	Range	Min. unit
<i>Track 1: Up and down (sponging)</i> Lower position [inc] : Lower position of the headplate while moving up and down.	0 – 99 inc	1 inc ≈ 1 mm
<i>Track 1: Up and down (sponging)</i> Stroke [inc] : Stroke of the headplate while moving up+down.	0 – 99 inc	1 inc ≈ 1 mm
<i>Track 1: Up and down (sponging)</i> Pressure up [bar] : Speed of the headplate lifting while moving up+down.	0 – 6 bar	0,1 bar
<i>Track 1: Up and down (sponging)</i> Pressure down [bar] : Speed of the headplate dropping while moving up+down	0 – 6 bar	0,1 bar
<i>Track 2: Distance</i> Distance [mm] : The programmable distance moved by the headplate to the bottom plate.	1 – 99 mm	1 mm
<i>Track 3: Pressure</i> Pressure [bar] : Pressure between head- and bottomplate.	0.1 – 6.0 bar	0.1 bar
<i>Track 5: Blowing</i> Headplate blowing [%] : Blows cold air into the headplate. (steam/air mixture).	10 - 100 %	1 %
<i>Track 6: Steam</i> Headsteam [%] : Blows steam into the headplate.	Proportional steam: 10 – 100 % 3-step steam: 40 %, 60 %, 100 %	Proportional steam: 1 % 3-step steam: 20% and/or 40 %
<i>Track 8: Vacuum</i> BottomPlate-Vakuum [%] : Vacuum on the bottomplate cools the fabric.	0 – 100 %	25 %
<i>F8: Time</i> [Time cycle in sec]	0,1 – 9,9 sec	0,1 sec

Comment:

Which parameter really has to be programmed depends on the respective track. You can see the individual parameters in the bottom line while programming the parameter for the certain track.

Before starting_

Before you can program the parameters:

- the control must be ON and the main picture/program must be visible on the display
- the control must be unlocked by the inserted Memory-Card.
- switch the control into the programming mode (“create program”) and
- the respective track should be switched on.

Comment:

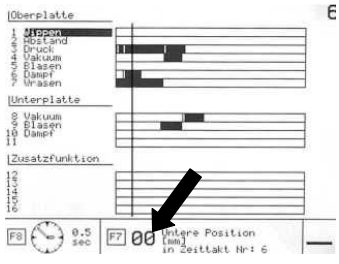


The chosen program of tracks should not be protected.

If you don't program the track-parameter, automatically a standard parameter would be set.

4.3.4.2 How to set the parameters

Program the paramter as shown below:

Step	Action	Image
1	<p>Choose the track for which parameters are needed be programmed with the navigation keys “▲▼”.</p> <p><i>Comment:</i> The designation of the choosen track is shown highlighted.</p>	
2	<p>Choose time cycle where the selected parameter should be working with the navigation keys “◀▶”.</p> <p><i>Comment:</i> With the vertical cursor line you can see exactly the actual time cycle. The input position of the parameter must be at the first programmed time cycle of a track if the parameter should work during the whole time while the track is ON.</p>	
3	<p>Press the function key F7 to set the parameter now.</p> <p><i>Comment:</i> As long as the parameter input is active, the letters F7 in the Bottomline is shown highlighted.</p>	

<p>4</p>	<p>Depending on the track, you have to set four parameters in one time cycle. During the parameter input you can switch through the parameters in the bottomline with the navigation keys “▲▼”.</p> <p><i>Comment:</i> All values must be entered with two digits. The value 00 means switching off respective parameter.</p> <p><i>Example:</i> Desired pressure = 3,0 bar and 0,5 bar Value of input = 30 and 05</p>	
<p>5</p>	<p>Complete the parameter input by pressing the function key “F7”.</p>	
<p>6</p>	<p>Would you like to program further parameters?</p> <ul style="list-style-type: none"> ■ Yes – place the cursor on the desired position and repeat step 1 - 4. ■ No – store the program and quit the editor by pressing the key “P”. 	

Comment:

In the track- “up and down movement” (sponging), you must put in four parameters per time cycle. All other tracks require only one parameter per time cycle.

In every time cycle of the track you have the possibility to set a parameter – the max. possible parameters in one track are consequently 60.

4.3.4.3 Information to Deleting a parameter

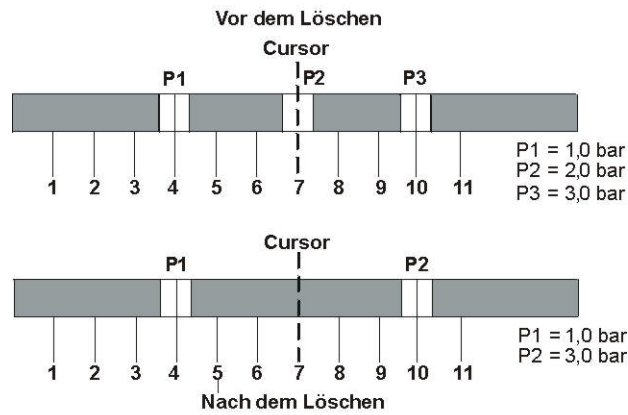


Fig. 26 Deleting a parameter

Item	Description
P1-P3	These are parameter setpoints – the value of the track is changing there.
01-11	These are the timecycles (steps)
Cursor	Signs your position on the display – movable with the navigation keys “▲▼” and “◀▶”.

If you delete the programmed parameter P2 the setpoint disappears from the display – the parameter P1 is now valid till the next setpoint. The formerly parameter P3 is now the second parameter P2

P1 can only be changed and not deleted – this is because an initial parameter will always required for starting the operation and if not available, there would be no command(input) for the control on how to execute the track.

4.3.4.4 How to delete a Parameter

Below is shown how to delete an already existing parameter:

Step	Action	Image
1	<p>Choose the track where you want to delete a parameter with the navigation keys “▲▼”.</p> <p><i>Comment:</i> The designation of the choosen track is shown highlighted</p>	
2	<p>Move the cursor with the navigation keys “◀▶” to the setpoint of the parameter that is to be deleted.</p> <p><i>Comment:</i> You can Fig. out the setpoint also by watching the actual parameter value of the track which is shown in the bottom-line.</p>	
3	<p>Press the function key “F7” now. The window for the parameter input (in bottom-line) is now activated.</p>	
4	<p>Enter the value “00” to delete this parameter and confirm with the function key F7.</p> <p><i>Comment:</i> The setpoint left beside the cursor is now valid in this time cycle.</p>	
5	<p>Would you like to delete another parameters?</p> <ul style="list-style-type: none"> ■ Yes – place the cursor on the desired position and repeat step 1 - 4. ■ No – store the program and quit the editor by pressing the key “P”. 	

4.3.5 How to adjust the time cycle

Content

Here you'll get the information on how to set the time-cycle, with this you are adjusting the duration of all functions and therefore the duration of the whole program.

Preliminary remark

If you change the amount of the time-cycle which is valid for all steps, the duration of the whole program will be influenced. The range for the time-cycle is from 0.1 to 9.9 seconds.

Before starting...

Before programming the time-cycle:

- the control must be ON and the main screen/program must be visible on the display
- the control must be unlocked by inserting a Memory-Card.
- switch the control into the programming mode

Comment:

The chosen program location should not be protected.

Program the parameter as follows:

Step	Action	Image
1	<p>Press the function key "F8". The window for the time-cycle input (bottom-line) is now activated. <i>Comment:</i> As long as the parameter input is active, the clock in the bottomline is shown highlighted.</p>	
2	<p>Enter a value between 0.1 and 9.9 seconds.. <i>Comment:</i> The value must be entered with two digits. <i>Example:</i> Desired value = 0.1 sec and/or 9.9 sec Entered value = 01 and/or 99</p> <p>The new value is confirmed automatically and immediately active</p>	
3	<p>Quit the editor and confirm the changes by pressing the key "P".</p>	

4.3.6 How to designate a pressing program

Content

Here you'll get the information on how to designate a pressing program.


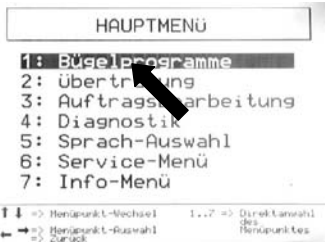
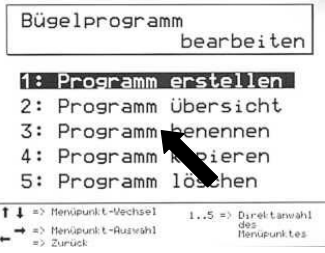
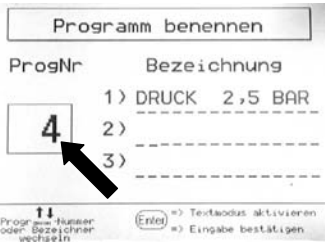
Preliminary remark

You can choose the name for the pressing program as you like. But the name incl. characters mustn't be longer than 3 x 15 characters. You can't rename a protected program.

Before starting

Before you can designate the program:

- the control must be ON and the main screen/program must be visible on the display
- the control must be unlocked by the inserting a Memory-Card.
- the pressing program including the parameters should be programmed.

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Call the sub menu "processing programs" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Call the sub menu "Designate programs" with number key "3". <i>Comment:</i> You can also select this menu item by using the navigation keys.	
4	Choose the program that needs to be designated with the navigation keys "▲▼".	

5	Activate the text-editor by pressing the key “ENTER”.	
6	Choose the line where you want to write the designation with the navigation keys “▲▼”. <i>Comment:</i> You can write at max. 3 x 15 characters. The line feed works automatically.	
7	Use the letter keys to write the designation. <i>Comment:</i> One key is allocated for three characters. You can call the individual character by pressing the letter keys once, twice or three times. After the first character is written, the cursor jumps automatically to the next position.	
8	Do you want to use one more line for the program designation? ■ Yes – go back to step 4. ■ No – go ahead with step 9	
9	Confirm your input with pressing the key “ENTER”.	
10	Go back to the main picture by pressing the key “P”.	

4.3.7 How to copy a pressing program

Content

Here you'll get the information on how to copy a pressing program to another program location.

When does copy make sense?

Copying a program makes sense, when you have to create a new program and an existing program is already too close to the new program to be created– so the changes needed are very little to convert it into the new required program.


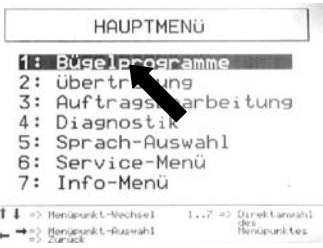

Before starting

Before you can copy a program:

- the control must be ON and the main picture/program must be visible on the display
- the control must be unlocked by inserting a memory-card.
- the pressing program including the parameters should be programmed and designated.

4.3.7.1 How to copy a pressing program

Copy the pressing program as follows:

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Call the sub menu "processing programs" with number key "1". <i>Comment:</i> You can also select this menu item by using the navigation keys.	
3	Call the sub menu "Copy programs" with number key "4". <i>Comment:</i> You can also select the menu item by using the navigation keys.	

<p>4</p>	<p>Put the number of the program in, where you want to copy to.</p> <p><i>Comment:</i> There are 30 program locations available. You can view the program list in the submenu “table of content”. If a program location is occupied or protected, you will get the respective message.</p>	
<p>5</p>	<p>Confirm your input by pressing the key “←”.</p> <p>The copy procedure is done. The main picture appears on the display.</p>	

4.3.7.2 Possible error message during the copy procedure

If there occurs any error or malfunction, you’ll get one of the two following error messages:

Message/Measure	Image
<p><i>Message :</i> Attention! The target program location is engaged.</p> <p><i>Measure :</i> You got two possibilities: 4th Abort the operation and choose another free program location. 5th Go ahead with the copy procedure. The existing program will be overwritten and lost.</p>	
<p><i>Message :</i> Attention! The target program location is protected or not valid!</p> <p><i>Measure :</i> You must abort the operation and choose another target program location.</p>	

4.3.8 How to delete a pressing program

Content

Here you'll be informed on how to delete pressing programs.


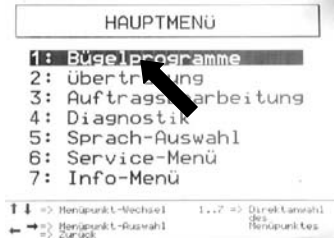
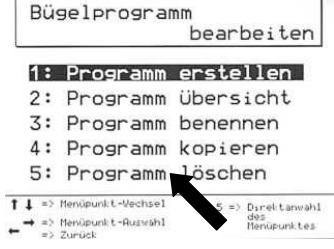

Before starting...

Before you can delete the program, please ensure:

- the control must be ON and the main screen/program must be visible on the display
- the control must be unlocked with the memory-card inserted.
- the pressing program that should be deleted must exist.

4.3.8.1 How to delete a pressing program

Delete the program as follows:

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Call the sub menu "processing programs" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Call the submenu "Delete programs" by pressing the number key "5". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
4	Choose one of the delete-options with the navigation keys "▲▼". <i>Prog.-No</i> Delete a single program. <i>Prog.-Section</i> A serial order of programs from No. to No. <i>All programs</i> All, except the protected programs.	

	<p><i>Comment:</i> You can view the program list in the submenu “table of content”.</p>	
5	<p>Do you like to delete all programs?</p> <ul style="list-style-type: none"> ■ Yes – go ahead at step 6. ■ No – go ahead at step 7. 	
6	<p>Enter the number of your choice or enter the numbers of a serial order of programs with the number keys.</p> <p>Confirm your input with the key “←”.</p>	
7	<p>Confirm your input by pressing the key “ENTER”.</p>	
8	<ul style="list-style-type: none"> ■ Make your decision at the safety check with the navigation keys “◀▶”. ■ Confirm your input via the key “ENTER”. 	

Comment:

The control unit shows automatically the main screen after you have completed the deletion procedure. You can cancel the deletion procedure by pressing the key “P”.

Possible error messages during the deletion procedure

If there occurred any error or malfunction, you'll get one of the two following error messages:

Message/Measure	Image
<p><i>Message :</i> You tried to delete one of the protected programs (01 – XX)!</p> <p><i>Measure :</i> The preset programs on places 01-XX can not be deleted. You must not include this program location in the deletion procedure.</p>	

4.4 How to create sequences

Content

Here you'll find the necessary information on how to create and edit the sequences.

4.4.1 Basics about sequences

Feature of a sequence

A sequence is a serial order of different or identical pressing programs. The pressing programs are then executed in a serial order, starting with pressing the pedal "START".

Sequences are absolutely necessary for pressing the waistband!

Comment:

Sequences contain a max. of 12 pressing programs. You'll see the individual programs of a sequence in the main screen/picture of the sequence mode. The activated program is shown highlighted.

Serial program flow

Serial program flow means:

- 1st By starting the sequence the first time, the first program of the sequence will be operated.
- 2nd After the execution of the first program is finished, the control automatically jumps to execute the second program of the sequence.
- 3rd By starting the sequence the next time, the next program in the serial order will be executed.
- 4th and so on ...

Premise to create a sequence

Premise for creating a sequence: There must be one complete and functioning pressing program in the control.

How to influence the serial program flow

In case of a faulty pressing operation, you can change to the previous/next program of the sequence with the navigation keys "◀▶".

4.4.2 Table of content: Sequences

Content

Here you'll get the information on how to call the actual "table of content: sequences" showing all the existing sequences in your control unit.

Supplied sequences

The machines delivered by INDUPRESS® as per the equipment contains several sequences already (3-7 pcs.). The follow rules are valid for these sequences:

- They are placed preferably on the sequence locations 01-07.
- They can't be changed or deleted.



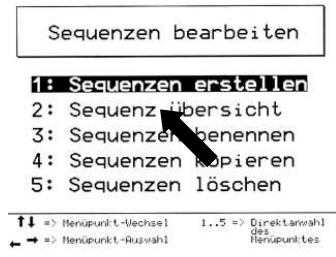
Before starting

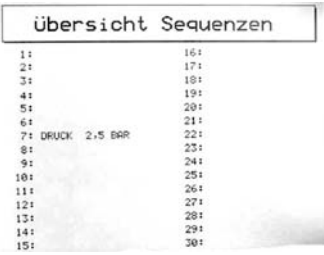

Before you can call the actual "table of content: sequences" please ensure:

- the control must be ON and the main picture/sequence must be visible on the display
- the control must be unlocked by inserting a Memory-Card.

4.4.2.1 How to call the Actual "table of content: sequences"

You can call the table of content as follows:

Step	Action	Image
1	Press the key P to enter the mainmenu.	
2	Call the submenu "processing sequences" with number key "1". <i>Comment:</i> You can also select this menu item by using the navigation keys.	
3	Call the submenu "table of content" with the number key "2". <i>Comment:</i> You can also select this menu item by using the navigation keys.	

<p>4</p>	<p>In the table of content you can see the occupied sequence locations and the designation of the individual sequences. The occupied locations are shown highlighted.</p> <p><i>Comment:</i> There are existing 30 sequence locations at max.</p>	
<p>5</p>	<p>Back to the main screen with key "P".</p>	

4.4.3 How to create pressing sequences



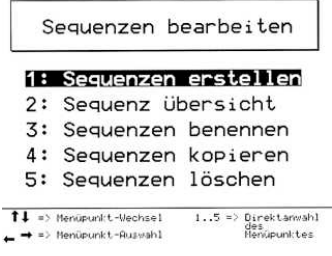

Before starting

Before you can create the sequence you have to:

- the control must be ON and the main picture/sequence must be visible on the display
- the control must be unlocked with the Memory-Card inserted.
- Select an empty sequence location.

How to create a Sequence

Create the sequences as follows:

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Call the sub menu "processing sequences" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Call the sub menu "Create sequence" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys...	
4	Press the key "ENTER". The cursor jumps now onto the first input position.	

<p>5</p>	<p>5th Choose the program-box with the navigation keys “◀▶▲▼”.</p> <p>6th Enter the number of the first operating program.</p> <p><i>Comment:</i> Empty program locations (00) are moved up.</p>	
<p>6</p>	<p>Confirm your input by pressing the key “↵”.</p> <p>The selected program is now stored in the sequence.</p>	
<p>7</p>	<p>The cursor jumps now to the next input position.</p> <p>Repeat the steps 5 + 6 until all necessary programs are included in the sequence.</p> <p><i>Comment:</i> Sequences can contain a max. of 12 pressing programs.</p>	
<p>8</p>	<p>Go back to the main picture with key “P”, if you want to quit the sequence editor.</p>	

4.4.4 How to modify a sequence

Content

Here you'll learn how to modify existing sequences.



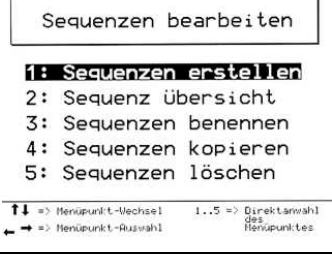
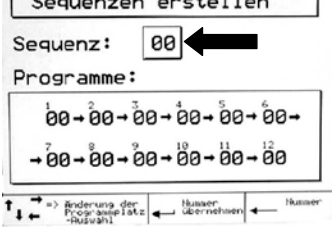
Before starting:

Before you can modify a sequence you have to ensure that:

- the control must be ON and the main picture/sequence must be visible on the display
- the control must be unlocked by the Memory-Card inserted.

4.4.4.1 How to modify the sequence

Modify the sequences as follows:

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Call the submenu "Processing sequences" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Call the submenu "Create sequence" with number key "1". <i>Comment:</i> You can also select this menu item via the navigation keys.	
4	Select the sequence that should be changed with the navigation keys "▲▼".	

<p>5</p>	<p>Choose the program-box with the navigation keys “◀▶▲▼” that should be changed.</p> <p><i>Comment:</i> The selected program is shown highlighted.</p>	
<p>6</p>	<p>Enter the new program number into the sequence.</p> <p><i>Comment:</i> With entering “00” you can delete a program location. Empty program locations (00) are moved up.</p>	
<p>7</p>	<p>Confirm your input by pressing the key “↵”.</p> <p>The change is now stored in this sequence.</p>	
<p>8</p>	<p>Go back to the main screen by key “P”, if you want to quit the sequence editor.</p>	

4.4.4.2 Possible error messages during the modification

If you can't modify the sequence you'll see the following error messages:

Message/Measure	Image
<p><i>Message:</i> You have tried to edit one of the protected sequences. Access denied!!</p> <p><i>Measure:</i> The present sequences on places 01-XX can not be modified. You must not include these sequence locations in your modifications. Make a copy to a free/unprotected sequence location before you start the modification.</p>	

4.4.5 How to designate sequences

Preliminary remark

You can choose the name of a sequence as you like. But the name incl. characters mustn't be longer than 3 x 15 characters.



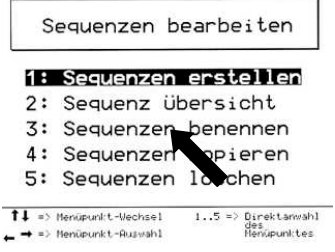
You can't rename a protected sequence.

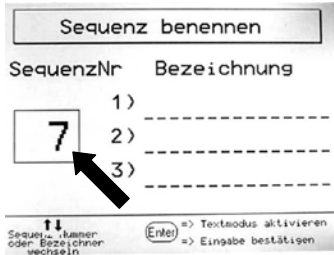

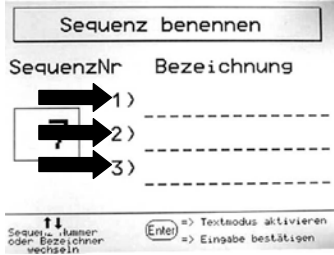


Before starting


Before you can designate the sequence:

- the control must be ON and the main screen/sequence must be visible on the display
- the control must be unlocked by the Memory-Card inserted.
- the sequence should be existing.

How to designate sequences

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Call the sub menu "Processing sequences" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Call the submenu "Designate sequences" with the number key "3". <i>Comment:</i> You can also select the menu item by using the navigation keys.	

<p>4</p>	<p>Choose the sequence which should be designated with the navigation keys “▲▼”.</p>	
<p>5</p>	<p>Activate the text-editor by pressing the key “ENTER”.</p>	
<p>6</p>	<p>Choose the line where you want to write the designation with the navigation keys “▲▼”.</p> <p><i>Comment:</i> You can write at max. 3 x 15 characters. The line feed works automatically.</p>	
<p>7</p>	<p>Use the letter keys to write the designation.</p> <p><i>Comment:</i> One key is allocated with three characters. You can call the individual character by pressing the letter keys once, twice or three times.</p> <p>After the first character is written, the cursor jumps automatically to the next position.</p>	
<p>8</p>	<p>Do you want to use one more line for the sequence designation?</p> <ul style="list-style-type: none"> ■ Yes – go back to step 4. ■ No – go ahead with step 9 	
<p>9</p>	<p>Confirm your input by pressing the key “ENTER”.</p>	

10	Go back to the main screen with pressing the key "P".	
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4.4.6 How to copy a pressing sequence

Content

Here you'll get the information on how to copy a pressing sequence to another sequence location.

When does copy make sense?

Copying a sequence makes sense, when you have to create a new sequence and an existing sequence is already too close to the new sequence to be created– so the changes needed are very little to convert it into the new required sequence.



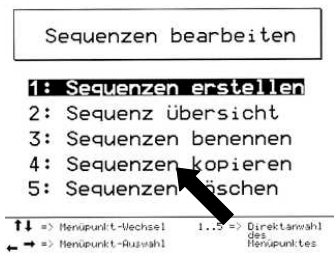
Before starting

Before you can copy a sequence:

- the control must be ON and the main screen/sequence must be visible on the display
- the control must be unlocked by inserting the Memory-Card.
- the sequence should be existing.

How to copy a pressing sequence

Copy the pressing sequence as follows:

Step	Action	Image
1	Press the key P to enter the mainmenu.	
2	Call the submenu "Processing sequences" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Call the submenu "Copy sequences" with number key "4". <i>Comment:</i> You can also select the menu item by using the navigation keys.	

<p>4</p>	<p>Put the number of the sequence in, where you want to copy to.</p> <p><i>Comment:</i> There are 30 available sequence locations. You can view the sequence list in the submenu “table of content”. If a sequence location is occupied or protected, you will get the respective message.</p>	
<p>5</p>	<p>Confirm your input by pressing the key “←”.</p> <p>After the copy procedure is finished. The main screen appears on the display.</p>	
<p>6</p>	<p>Go back to the main picture by pressing the key “P”.</p>	

4.4.6.1 Possible error message during the copy procedure

If there occurs any error or malfunction, you'll get one of the two following error messages:

Message/Measure	Image
<p><i>Message :</i> Attention! The target sequence location is engaged.</p> <p><i>Measure :</i> You got two choices: 7th Abort the operation and choose another free sequence location. 8th Go ahead with the copy procedure. The existing sequence would be overwritten and lost.</p>	
<p><i>Message :</i> Attention! The target sequence location is protected or not valid!</p> <p><i>Measure :</i> You must abort the operation and choose another target sequence location.</p>	

4.4.7 How to deleting pressing sequences



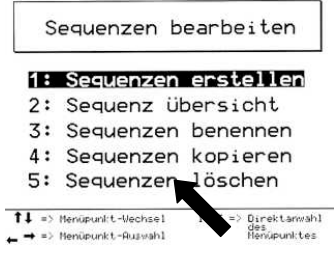
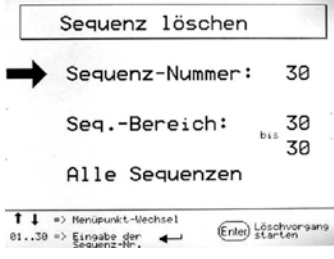
Before starting:

Before you can delete the sequence:

- the control must be ON and the main screen/sequence must be visible on the display
- the control must be unlocked by inserting the memory-card.
- the sequence that is to be deleted must exist.

How to delete a pressing sequence

Delete the sequence as follows:

Step	Action	Image
1	Press the key P to enter the main menu.	
2	Call the submenu "Processing sequences" with number key "1". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Call the submenu "Delete sequences" with number key "5". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
4	Choose one of the delete-options with the navigation keys "▲▼". <i>Seq.-No.</i> Delete a single sequence. <i>Seq.-Section</i> A serial order of sequences from No. to No. <i>All sequences</i> All, except for the protected sequences. <i>Comment:</i> You can view thesequence list in the submenu "table of content".	

<p>5</p>	<p>Do you like to delete all sequences?</p> <ul style="list-style-type: none"> ■ Yes – go ahead at step 6. ■ No – go ahead at step 7. 	
<p>6</p>	<p>Enter the number of your choice or enter the numbers of a serial order of sequences with the number keys.</p> <p>Confirm your input with the key “←”.</p>	
<p>7</p>	<p>Confirm your input by pressing the key “ENTER”.</p>	
<p>8</p>	<p>Go back to the main screen with the key “P”.</p>	

Comment:

The control unit automatically shows the main screen after you have completed the deletion procedure. You can cancel the deletion procedure by pressing the key “P”.

4.4.7.1 Possible error messages during the delete Procedure:

If the deleting process fails totally or partially you'll see the following error messages:

Message/Measure	Image
<p><i>Message :</i> You tried to delete one of the protected sequences (01 – XX)!</p> <p><i>Measure :</i> The preset sequences on places 01-XX can not be deleted. You must not include these sequence locations in the deletion procedure.</p>	

4.5 Data transmission

4.5.1 Basics about the memory card

Description of the memory card

The memory card is an external memory where you can save the pressing programs and sequences.

The memory-card is a Flash-ROM memory without batteries. The data is available at every time once saved inside it.

The machine software, which is the basic thing that makes the control unit work, can also be stored into the memory-card.

Purpose of usage

There are three purposes for the memory card:

1. You can save the data of pressing programs and sequences.
2. It enables transferring of pressing programs and sequences from one machine to another machine without any problems.
3. If there is a failure in the control, you can also create a system backup with a memory card.

Premise to transfer data

In order to transfer data from the memory card to another machine you have to fulfill the following requirements:

1. The machines should be operating in the same application.
2. The machines must have the same hardware and software version.

Where to plug the memory-card?

The memory card is inside the box of the control unit PP41, protected with a plastic case.

You can plug it into the control unit only when the machine is **switched OFF**.

How to plug and unplug the memory card.
Please pay attention to the following:

How to insert the memory card

The plugged in end of the card is coded. You can plug in the memory card only in one way. Therefore never force the card into the card slot! If you insert the card in the right way, the “eject” button pushes it out of the case.

How to take out the memory card

Press the “eject” button at the case to the limit. The memory card would be pushed out enough so you can pull it out.

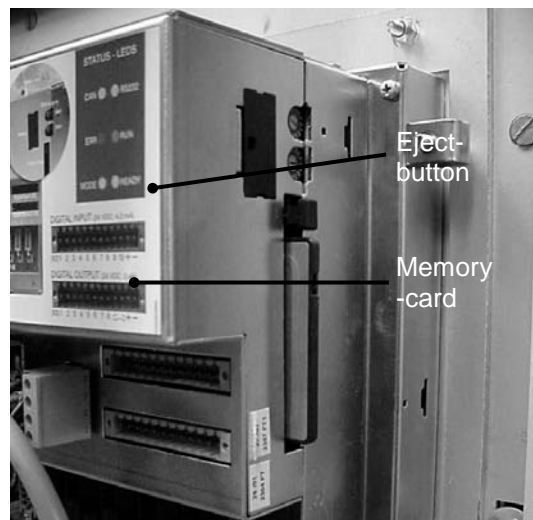


Fig. 27 Memory card on the control unit

4.5.2 Transfer data to the memory card

Content

Here you'll get the information on how to transfer the pressing programs and sequences from the control to the memory card.

Before starting:

Before you can transfer pressing programs/sequences:



- the control must be ON and the main screen/sequence must be visible on the display
- Switch the program/sequence mode to:
 - “program”, if you want to transfer pressing programs or
 - “sequence”, if you want to transfer pressing sequences.
- The control must be unlocked by inserting the memory-card. The LED in key “↔” should shine with this.

How to transfer data

Transfer the data in the following steps:

Step	Action	Image
1	Press the key “P” to enter the mainmenu.	
2	Press the number key “2” to call the submenu: transmission <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key “2” to call the submenu “Memory card”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	

<p>4</p>	<p>Press the number key “1” to call the sub menu “program/sequences -> Memory card”.</p> <p><i>Comment:</i> You can also select the menu item by using the navigation keys.</p>	<p>MEMORY CARD</p> <p>1: Sequenzen => MEM-CARD 2: MEM-CARD => Sequenzen</p> <p>↑ ↓ => Menüpunkt-Wechsel 1...9 => Direktwahl des Menüpunktes ← → => Menüpunkt-Auswahl</p>
<p>5</p>	<p>What would you like to transfer?</p> <ul style="list-style-type: none"> ■ One or several pressing programs/sequences -> go ahead to step 6. ■ All pressing programs/sequences-> go ahead to step 10. 	
<p>6</p>	<p>Choose the program/sequence that you want to transfer with the navigation keys “◀▶▲▼”.</p> <p><i>Comment:</i> You can call the table of content of the available programs/sequences on the control unit with the function key “F1”.</p>	<p>Sequenzen → MEM-CARD</p> <p>Sequenzen auf der Maschine (inventiert): >01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</p> <p>Sequenzen auf der MEM-CARD (inventiert): 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</p> <p>i bereits vorhandene Sequenzen werden überschrieben</p> <p>↑ ↓ Auswahl des Einzelprogrammes (Enter) ausgewählte Sequenz übertragen (F8) ALLE Sequenzen übertragen</p>
<p>7</p>	<p>Confirm your choice with the key “Enter”.</p>	
<p>8</p>	<p>Choose the memory No. on the card where the program/sequence should be stored with the navigation keys “◀▶▲▼”.</p>	<p>Sequenzen → MEM-CARD</p> <p>Sequenzen auf der Maschine (inventiert): >01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</p> <p>Sequenzen auf der MEM-CARD (inventiert): 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30</p> <p>i bereits vorhandene Sequenzen werden überschrieben</p> <p>↑ ↓ Auswahl des Einzelprogrammes (Enter) ausgewählte Sequenz übertragen (F8) ALLE Sequenzen übertragen</p>
<p>9</p>	<p>Confirm your choice with the key “Enter”.</p> <p>The selected program/sequence will be transferred now.</p> <p><i>Comment:</i> During the transmission, the arrow in the centre of the display is shown highlighted.</p>	

10	<p><i>Only if you like to transfer all programs/sequences to the memory card:</i></p> <p>Use the function key "F8".</p> <p>All programs/sequences would be transfered.</p>	 <p>The image shows the INDUPRESS control unit with a white arrow pointing to the F8 function key on the left side of the screen.</p>
11	<p>Press the key "P" to go back to the main screen.</p>	 <p>The image shows the INDUPRESS control unit with a white arrow pointing to the P key on the keypad.</p>

4.5.3 Transfer data to the control

Content

Here you'll get the information on how to transfer pressing programs and sequences from the memory card into the control.

Transfer to other Control units

In order to transfer data from the memory card to another machine you have to fulfill the following requirements:

1. The machines should be operating in the same application.
2. The machines must have the same hardware and software version.

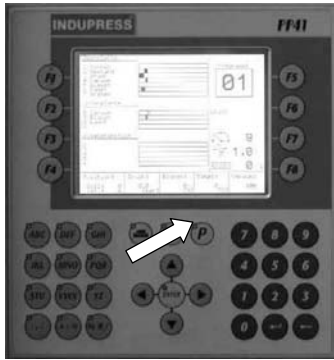

Before starting

Before you can transfer pressing programs/sequences:




- the control must be ON and the main picture/sequence must be visible on the display
- Switch the program/sequence mode to:
 - "program", if you want to transfer pressing programs or
 - "sequence" if you like to transfer pressing sequences.
- The control must be unlocked by inserting the memory-card. The LED in key "↔" should shine with this.

How to transfer data to the Control unit

Transfer the pressing programs/sequences in the following steps:

Step	Action	Image
1	Press the key "P" to enter the mainmenu.	
2	Press the number key "2" to call the submenu: transmission <i>Comment:</i> You can also select the menu item by using the navigation keys.	

<p>3</p>	<p>Press the number key “2” to call the submenu “Memory card”.</p> <p><i>Comment:</i> You can also select the menu item by using the navigation keys.</p>	
<p>4</p>	<p>Press the number key “2” to call the submenu “Memory card -> program/sequences”.</p> <p><i>Comment:</i> You can also select the menu item by using the navigation keys.</p>	
<p>5</p>	<p>What would you like to transfer?</p> <ul style="list-style-type: none"> ■ One or several <i>pressing programs/sequences</i> -> go ahead to step 6. ■ All <i>pressing programs/sequences</i>, -> go ahead to step 10. 	
<p>6</p>	<p>Choose the program/sequence that you like to transfer with the navigation keys “◀▶▲▼”.</p> <p><i>Comment:</i> You can call the table of content of the available programs/sequences on the memory card with the function key “F1”.</p>	
<p>7</p>	<p>Confirm your choice with the key “Enter”.</p>	
<p>8</p>	<p>Choose the location No. in the control where the program/sequence should be stored with the navigation keys “◀▶▲▼”.</p>	

<p>9</p>	<p>Confirm your choice with the key “Enter”.</p> <p>The selected program/sequence would be transferred now.</p> <p><i>Comment:</i> During the transmission the arrow in the centre of the display is shown highlighted.</p>	
<p>10</p>	<p><i>Only if you want to transfer all programs/sequences to the control :</i></p> <p>Use the function key “F8”.</p> <p>All programs/sequences would be transferred.</p>	
<p>11</p>	<p>Press the key “P” to go back to the main screen.</p>	

Comment:

You can delete the chosen programs/sequences with key “F4”.

4.5.4 Data transmission via serial port

Content

By Default, The INDUPRESS® machine is equipped for data transmission via the serial port. Here you'll find the necessary information on how to unlock or lock this function at the machine.

Purpose of use

The data teletransmission through INDUPRESS® is for:



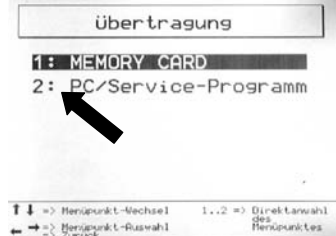
- Telediagnosics of the machine in case of malfunction,
- Transmission of software updates into the control,
- Transmission of INDUPRESS® pressing programs into the control.



Before starting...

Before you can start the data teletransmission you have to open the control by inserting the memory card. The LED in key "P" should shine with this.

How to start the transmission via serial port

Start data teletransmission as follows:

Step	Action	Image
1	Press the key "P" to enter the mainmenu.	
2	Press the number key "2" to call the submenu "transmission". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key "2" to call the submenu "PC/Service-program". <i>Comment:</i> You can also select the menu items by using the navigation keys.	

<p>4</p>	<p>The transfer picture appears on the display. With pressing the key "Enter" you can unlock the transmision from/to external via serial port.</p>	 <p>The screenshot shows a menu titled "Transfer Freischaltung". At the top, there are icons for a mobile phone, a right-pointing arrow, a USB symbol, another right-pointing arrow, and a keypad icon. Below these icons is a "STOP" symbol in a circle. Underneath, the text "Transfer gesperrt" is displayed. At the bottom, a line of text reads "Enter) => Externen Zugriff aktivieren/deaktivieren".</p>
<p>5</p>	<p>You can go back to the main screen, by pressing the key "P".</p>	 <p>The photograph shows the physical control unit keypad. A white arrow points to a key labeled with the letter "P". The keypad includes various function keys (F1-F4), a numeric keypad (0-9), and other control buttons.</p>

4.6 Work on order

4.6.1 Barcode construction

Content

How to include our data into the existing barcode system?

Preliminary remark

This function is only available with the barcode-scanner (optional).

With the barcode-scanner it's possible to:

- choose the respective pressing program automatically and
- control the number of pieces to be pressed.

Corresponding action taken depends on the barcode of the garment.


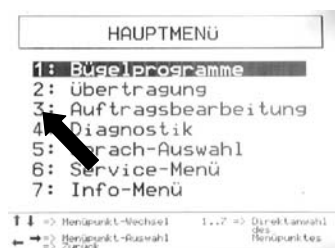
Before starting:

Before you can access the barcode construction/setup:

- the control must be ON and the main screen/sequence must be visible on the display.
- The control must be unlocked by the inserted memory-card. The LED in key “↔” should shine with this.

How to do the barcode-setup

If you would like to teach the barcode construction of an existing barcode into the control unit, go ahead as follows:

Step	Action	Image
1	Press the key “P” to enter the main menu.	
2	Press the number key “3” to call the submenu “Work on order”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	

<p>3</p>	<p>Press the number key “1” to call the submenu “Scan-code construction”</p> <p><i>Comment:</i> You can also select the menu item by using the navigation keys.</p>	
<p>4</p>	<p>Now you can enter the following informations :</p> <p><i>Column “Position”:</i> This is the position in the barcode from where the relevant information can be read.</p> <p><i>Column “Length”:</i> This is the number of reserved digits, for the respective information.</p>	
<p>5</p>	<p>You can leave the menu after you have finished the barcode construction with the key “P” or the navigation key “◀”.</p>	

4.6.2 Program/sequence allocation

Preliminary remark

This function is only available with the barcode-scanner (optional).

With the barcode-scanner it's possible to:

- choose the respective pressing program automatically and
- control the number of pieces to be pressed

Corresponding action taken depends on the barcode of the garment.



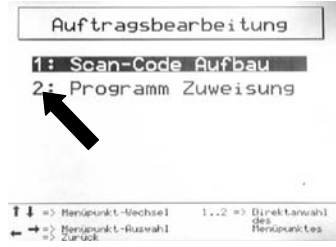
Before starting...



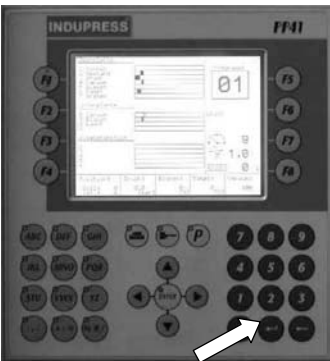
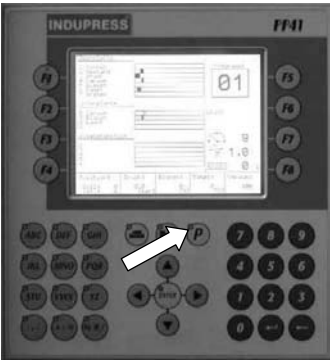
Before you can access the program/sequence allocation:

- the control must be ON and the main screen/sequence must be visible on the display
- The control must be unlocked inserting the memory-card. The LED in key “P” shines with this.

How to allocate a program/sequence

If you would like to allocate the programs go ahead as follow:

Step	Action	Image
1	Press the key “P” to enter the main menu.	
2	Press the number key “3” to call the submenu “Work on order”. <i>Comment:</i> You can also select the menu item by the navigation keys.	
3	Press the number key “2” to call the submenu “Program/sequence Allocation”. <i>Comment:</i> You can also select the menu item by the navigation keys.	

<p>4</p>	<p>Choose the dummy-program number for the pressing program that shall be included into the barcode via the navigation keys “◀▶”.</p> <p><i>Comment:</i> The program numbers 31-40 are reserved as dummies instead of the real programs to ensure the usage of the same number for one fabric at all the machines in the production line.</p>	 <p>Programm-Zuweisung</p> <p>Auftrags-/Scanner- Programm 1</p> <p>31 32 33 34 35 36 37 38 39 00</p> <p>↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓</p> <p>01 02 01 01 01 01 01 01 01 01</p> <p>(Eigelnprogramm oder Sequenz-Nummer)</p> <p>00 ist keine erlaubte Programm-Nummer)</p> <p>→ Wechsel zwischen den Programm-Plätzen ← Wert übernehmen</p>
<p>5</p>	<p>Use the number keys to assign to the individual programs/sequences the respective dummy-programs.</p> <p><i>Comment:</i> Use always two digits for the input, e.g. “03”</p>	 <p>Programm-Zuweisung</p> <p>Auftrags-/Scanner- Programm 1</p> <p>31 32 33 34 35 36 37 38 39 00</p> <p>↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓</p> <p>01 02 01 01 01 01 01 01 01 01</p> <p>(Eigelnprogramm oder Sequenz-Nummer)</p> <p>00 ist keine erlaubte Programm-Nummer)</p> <p>→ Wechsel zwischen den Programm-Plätzen ← Wert übernehmen</p>
<p>6</p>	<p>Confirm your input with the key “↵”.</p>	 <p>INDUPRESS FFI</p> <p>Confirmation of input with the 'P' key.</p>
<p>7</p>	<p>Press the key “P” if you have finished the allocation to go back to the main picture.</p>	 <p>INDUPRESS FFI</p> <p>Pressing the 'P' key to return to the main picture.</p>

4.6.3 Diagnostics




Content

In this chapter you'll learn the different possibilities of the machine diagnostics.

4.6.3.1 How to use the digital I/O-test

Content

Here you will learn how to check the digital inputs and how to switch the digital outputs of the control unit.

	 WARNING	
	<p>In the output test you can switch all valves which are connected to the digital output unit manually. Herewith the safety devices would be jumped. This can cause sudden movements of the machines and hence there is danger of injuries or damages to the machine.</p> <p>Consequently this test should only be done by trained personal with utmost caution.</p>	

What's the meaning of digital input signals?

An input signal is each digital signal which goes into the controller. Input-signals can be sent by:

- Foot pedals
- Limit-position-switches
- Solenoid-switches
- Press-buttons
- Proximity switches
- etc.

What's the meaning of digital output signals?

Output signals are all signals which are sent out of the controller. Output signals can be e.g:

- Switching of a solenoid valve
- Switching of a relay
- Turning a motor etc.,

Preliminary remark

In order to check the input signals you need the electronic and pneumatic diagrams.

In this diagram you'll find all inputs and output as well as the corresponding standard descriptions. You can also see the short descriptions on the electronic elements.


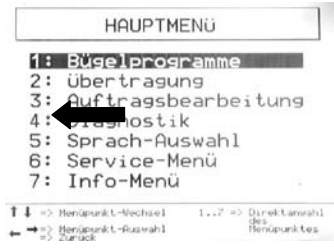
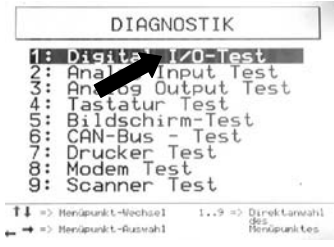
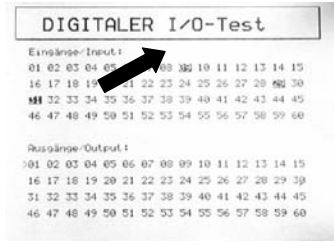
Before starting

Before you can access the digital I/O-test:

- the controller must be ON and the main screen/sequence must be visible on the display
- The controller must be unlocked by inserting the memory-card. The LED in key "←" should shine with this.

4.6.3.2 How to start the input test

Start the input test as shown below:



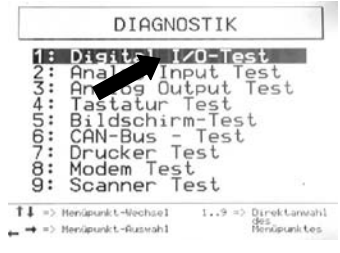
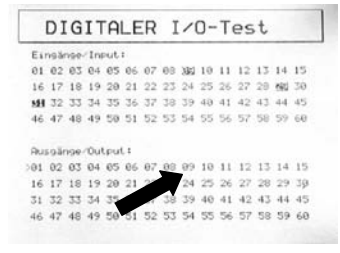
Step	Action	Image
1	Press the key "P" to call the mainmenu.	
2	Press the number key "4" to call the submenu "Diagnostics". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key "1" to call the submenu "Digital I/O-Test". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
4	Activate the electrical component that should be tested at the Input-test (e.g. pedal-switch). If the switch is working well, the respective signal will be recognized by the control unit– the respective input-no. would be highlighted on display. <i>Comment:</i> By using the electric diagram you can check, if it has been the correct input that has been highlighted.	
5	You can quit this mode with pressing the key "P".	

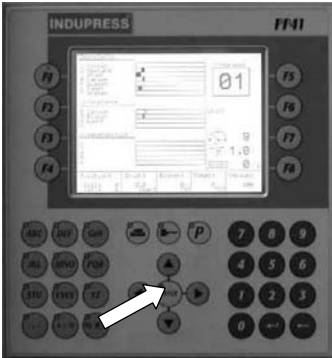

If the result is Negative:

Initiate the inspection of switch, connections and terminals by an expert. If the input test is still negative please contact the customer service of INDUPRESS®.

4.6.3.3 How to start the output test

Start the output test as shown below:

Step	Action	Image
1	Press the key "P" to call the main menu.	
2	Press the number key "4" to call the submenu "Diagnostics". <i>Comment:</i> You can also select the menu item by the navigation keys.	
3	Press the number key "1" to call the submenu "Digital I/O-Test". <i>Comment:</i> You can also select the menu item by the navigation keys.	
4	Search in the electric diagram for the component that you like to check (e.g. a solenoid valve).	
5	Move the Cursor ">" with the navigation keys "▲▼◀▶" to the selected output number.	

<p>6</p>	<p>Activate the output by pressing the key "ENTER".</p> <p>With this the selected electrical output will be switched :</p> <p>1 x ENTER : ON 2 x ENTER : OFF</p> <p>Holding the key ENTER for 3 secs: Starts a longtime-test mode (ON-OFF-ON-OFF ...) – press "ENTER" again to abort.</p> <p>Is the switched-on Output highlighted?</p> <p><i>Comment:</i> With repeating the steps 5 – 6 you can switch on several outputs. With this you can simulate a machine function which needs a combination of outputs.</p>	
<p>7</p>	<p>Go back to the main picture by pressing the key "P".</p> <p><i>Comment:</i> All outputs will be set to initial condition.</p>	

How to use the long-time test mode

To ease adjusting individual machine functions, the output test is equipped with a longtime-test-mode. This longtime-test-mode will be started if you press the key "ENTER" longer than approx. 3 sec.

After that the chosen output will be activated for one second after every two seconds.

If the result is negative

Inspection of all the switches, connections and terminals should be done by an expert. If the input test is still negative, please contact the customer service of INDUPRESS®.

4.6.4 How to use the analog input-test

What's the meaning of analog input signals?

Analog input signals are generated by the system for the positioning of the pressing plate. Herewith an analog voltage between 0 – 10 V DC, depending on the pressing-plate position, is sent by the analog proximity sensor to the analog Input module of the control unit.



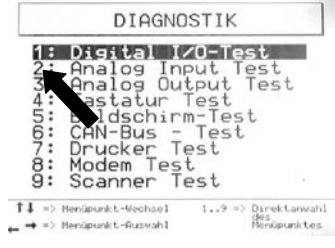
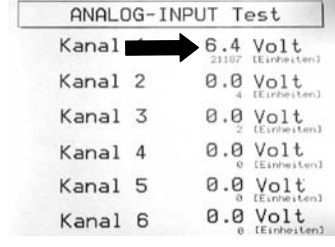
Before starting:


Before you can access the digital I/O-test:

- the control must be ON and the main screen/sequence must be visible on the display
- The control must be unlocked by inserting the memory-card. The LED in key “P” shines with this.

How to start the input test?

Start the input test as follows:

Step	Action	Image
1	Press the key “P” to call the main menu.	
2	Press the number key “4” to call the submenu “Diagnostics”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key “2” to call the submenu “Analog input test”. <i>Comment:</i> You can also select the menu item by the navigation keys.	
4	You can read the actual value of the proximity sensor on the display If you have more than one sensor connected to the analog input, please look for the corresponding channel in the electric diagram. <i>Comment:</i> ■ If you put an object of ferromagnetic material	

	<p>(screw-driver) on approx. 5-10mm to the yellow cap of the sensor, the analog input value of the respective channel would change.</p> <ul style="list-style-type: none"> ■ The control unit converts the analog input voltage to internal analog signals with a higher resolution. 0 V = 0 units 10 V = 32767 units To the individual voltage there will be the respective converted analog input. 	
5	<p>To finish the test, you can go back to main picture by pressing the key "P".</p>	

If the result is Negative

Inspection of all the switch, connections and terminals should be done by an expert. If the input test is still negative please contact the customer service of INDUPRESS®.

4.6.5 How to use the analog output-test

What's the meaning of analog output signals?

An analog output signal is an output voltage between 0-10 Volt DC. This voltage is used to control:

- The proportional pressure regulators of the pressing plates.
- The proportional blowing valve.
- The proportional steam valve.


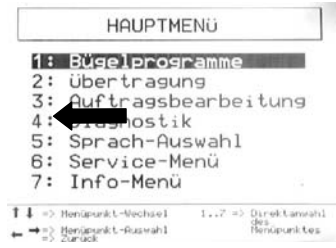
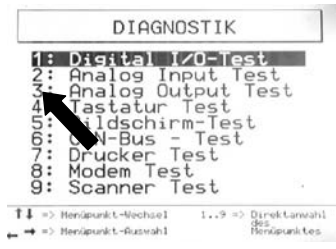
Before starting:

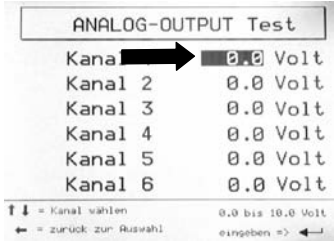
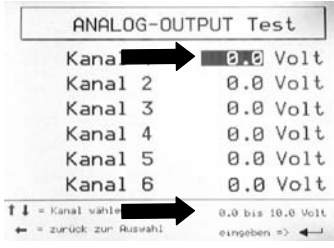


Before you can access the digital I/O-test:

- the control must be ON and the main screen/sequence must be visible on the display
- The control must be unlocked by the inserting a memory-card. The LED in key "←" shines with this.

How to start the output test

Start the output test as follows:

Step	Action	Image
1	Press the key "P" to call the main menu.	
2	Press the number key "4" to call the submenu "Diagnostics". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key "3" to call the submenu "Analog output test". <i>Comment:</i> You can also select the menu item by using the navigation keys.	

<p>4</p>	<p>Use the navigation keys “▲▼” to choose the individual output channel.</p>	
<p>5</p>	<p>Enter the output voltage with two digits. The output range can be converted like follows: 0-10 V = 0-10 bar or 0-10 V = 0-100% The range of the input is shown in the bottom line. <i>Example :</i> 0,5V = 0,5 bar and/or 5% 0,0 V = deactivator</p>	
<p>6</p>	<p>Confirm your input with the key “←”.</p> <p>The respective input must be ON now with the individual value.</p>	
<p>7</p>	<p>If the test is finished, you can go back to the main picture with key “P”.</p> <p><i>Comment:</i> All output values are set back to initial condition.</p>	

If the result is negative

Inspection of all the switches, connections and terminals should be carried out by an expert. If the output test is still negative please contact the customer service of INDUPRESS®.

4.6.6 How to check the keyboardcheck

Why do we need the keyboard test?

Start the test if the keyboard doesn't react on pressing or the LEDs seem to be faulty.



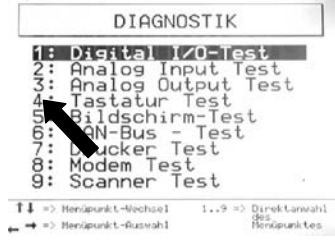
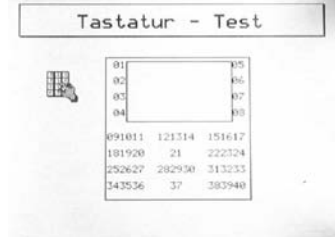
Before starting

Before you can access the digital I/O-test:

- the control must be ON and the main screen/sequence must be visible on the display
- The control must be unlocked by inserting a memory-card. The LED in key "↔" shines with this.

How to check the keyboard:

Check the keyboard as follows:

Step	Action	Image
1	Press the key "P" to call the mainmenu.	
2	Press the number key "4" to call the submenu "Diagnostics". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key "4" to call the submenu "Keyboard test". <i>Comment:</i> You can also select the menu item by using the navigation keys.	
4	You can check all keys on the keyboard by pressing the respective key (except the key "P" – key "P" is used to leave this test). If the individual key is working, the image on the display will show the key highlighted when you press it.	
5	If the test is finished, you can go back to the main picture with key "P".	

If the result is Negative: Please contact the customer service of INDUPRESS®.

4.6.7 How to use the display-test

Content

Here you get to check if all the pixels of the display are all right and working properly.

When do you have to check?

Start the test if the display seems bad because of missing pixels or the light is discoloured somewhere.

Before starting:


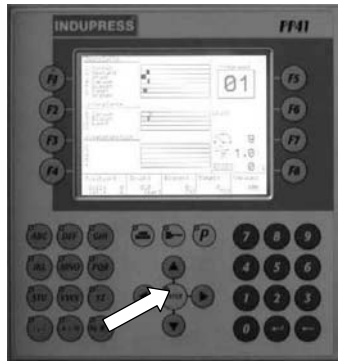

Before you can access the digital I/O-test, kindly ensure that:

- the control must be ON and the main picture/sequence must be visible on the display
- The control must be unlocked by inserting the memory-card. The LED in key “P” shines with this.

How to check the display:

Start the display test as follows:

Step	Action	Image
1	Press the key “P” to call the main menu.	
2	Press the number key “4” to call the submenu “Diagnostics”. <i>Comment:</i> You can also select the menu item by the navigation keys.	
3	Press the number key- “5” to enter the “screentest”. <i>Comment:</i> You can also select the menu item by the navigation keys..	

<p>4</p>	<p>Use the key “Enter” to start this test. The display changes the color now continuously from black to white.</p>	
<p>5</p>	<p>Please check the black display as well as the white for any missing pixels.</p>	
<p>6</p>	<p>Quit the display test with the key “Enter”.</p>	
<p>7</p>	<p>Go back to the main screen with the key “P”.</p>	

If the result is Negative:

You can adjust the brightness (page 1-33). If you got any further problems, please contact the customer service of INDUPRESS®.

4.6.8 How to check the CAN-interfacecheck

Functions of the communication interface

You can divide the function of the communication interface in two areas:

Machine interior

The CAN-Bus forms the communication between user panel in the command case and I/O component in the switchboard.

Machine exterior

The reticulation of several machines is done by the CAN-Bus and an external CAN-module.

When do you have to check?

Please use this test only if you suspect a malfunction in the communication between the Input/Output-logic and the control panel and/or between several machines (in case of a LAN).


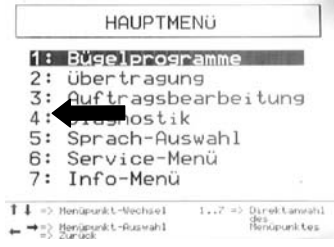
Before starting:

Before you can access the digital I/O-test:

- the control must be ON and the main screen/sequence must be visible on the display.
- The control must be unlocked by inserting a memory-card. The LED in key “P” shines with this.

How to check the CAN-Bus

Check the CAN-Bus as follows:

Step	Action	Image
1	Press the key “P” to call the main menu.	
2	Press the number key “4” to call the submenu “Diagnostics”. <i>Comment:</i> You can also select the menu item by the navigation keys..	

<p>3</p>	<p>Press the number key “6” to call the submenu “CAN-interface test”.</p> <p><i>Comment:</i> You can also select the menu item by using the navigation keys.</p>											
<p>4</p>	<ul style="list-style-type: none"> ■ Check if the status indicator shows the message “Connection O.K.” ■ Note the statistics in the lower window. <p><i>Comment:</i></p> <ul style="list-style-type: none"> ■ You can suspect flickering contact or broken wire if there are a lot of changes in signal levels. <p>There must be a change in the statistics if you switch the headguard or the emergency button.</p>	<table border="1"> <thead> <tr> <th colspan="2">Historie (seit Reset o. Kaltstart):</th> </tr> </thead> <tbody> <tr> <td>→ Gesamt</td> <td>: 00000</td> </tr> <tr> <td>→ Knoten-FBI</td> <td>: 00000</td> </tr> <tr> <td>→ Knoten-AUS</td> <td>: 00000</td> </tr> <tr> <td>→ Allges. Alarm</td> <td>: 00000</td> </tr> </tbody> </table>	Historie (seit Reset o. Kaltstart):		→ Gesamt	: 00000	→ Knoten-FBI	: 00000	→ Knoten-AUS	: 00000	→ Allges. Alarm	: 00000
Historie (seit Reset o. Kaltstart):												
→ Gesamt	: 00000											
→ Knoten-FBI	: 00000											
→ Knoten-AUS	: 00000											
→ Allges. Alarm	: 00000											
<p>5</p>	<p>To quit the test and to go back to the main screen use the key “P”.</p>											

If the result is negative

Inspection of all the switches, connections and terminals must be carried out by an expert. If the test is still negative please contact the customer service of INDUPRESS®.

4.6.9 How to use the printer-test

Why do we need the printer test?

Start the test if you are not able to print a pressinging program or/and other related data.



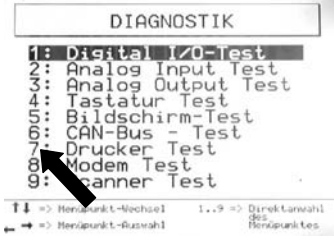

Before starting:

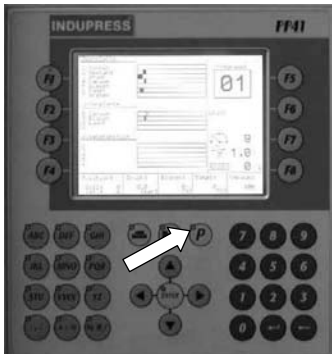
Before you can access the digital I/O-test:

- the controller must be ON and the main screen/sequence must be visible on the display
- The controller must be unlocked by inserting the memory-card. The LED in key “←” shines with this.
- Check if the printer is connected to the serial port at the back of the control unit, is switched ON and loaded with paper.

How to check the printer

Test the printer as follows:

Step	Action	Image
1	Press the key “P” to call the mainmenu.	
2	Press the number key “4” to call the submenu “Diagnostics”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key “7” to call the submenu “Printer test”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	
4	The printer will print a test page with all available characters.	

5	To quit the test and to go back to the main screen use the key "P".	
---	---	---

If the result is Negative:

- Check the connecting lines to the printer and if necessary also the printer – Try to print a test page only at the printer without input data (printer manual).
- Please contact the customer service of INDUPRESS® if the printer is still inactive and not been able to connect.

4.6.10 How to check the connection of the serial port?

When is a check of the serial port necessary?

Start this test if there's no online connection possible.


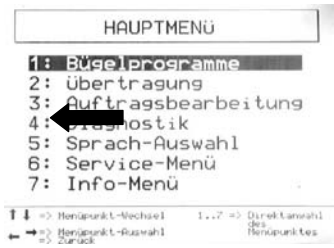
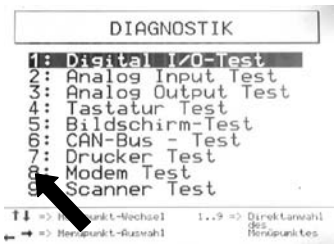
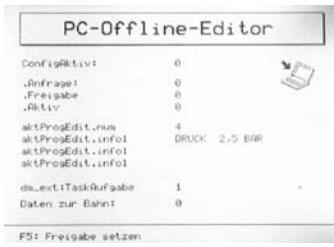
Before starting:


Before you can access the digital I/O-test:

- the controller must be ON and the main picture/sequence must be visible on the display
- The controller must be unlocked by inserting the memory-card. The LED in key “←” shines with this.
- Check if the modem is connected properly to the phone line.

How to check the modem

Check the modem as follows:

Step	Action	Image
1	Press the key “P” to call the mainmenu.	
2	Press the number key “4” to call the submenu “Diagnostics”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key “8” to call the submenu “Modem-Test”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	
4	The statistics/data on the external access will now appear on the display. <i>Comment:</i> You can see if there is traffic from/to external.	

5	To quit the test and to go back to the main picture use the key "P".	
---	--	---

If the result is negative

- Check the connections between the machines in the LAN.
- Check all connections between the machines, the modem and the phone line.
- Please contact the customer service of INDUPRESS® if all connections are connected in the right way and still the problem persists.

4.6.11 How to use the scanner test

When do you have to check?


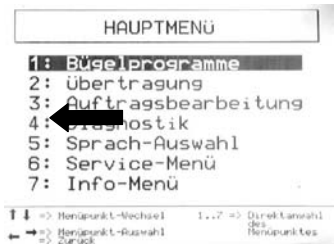
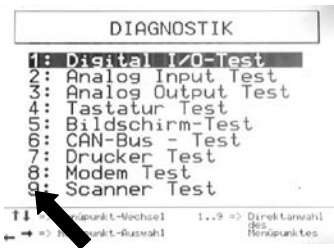
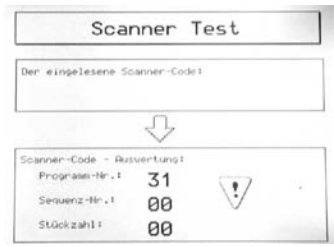
Start the test if you can not read the barcode although all connections are all properly connected.

Before starting:

- The control must be ON and the main picture/sequence must be visible on the display.
- The control must be unlocked by inserting the memory-card. The LED in key “↵” shines with this.
- Check if the barcode-scanner is connected correctly to the machine via a serial port and is switched ON

How to check the scanner

Check the scanner as follows:

Step	Action	Image
1	Press the key “P” to call the mainmenu.	
2	Press the number key “4” to call the submenu “Diagnostics”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	
3	Press the number key “9” to call the submenu “Scanner-Test”. <i>Comment:</i> You can also select the menu item by using the navigation keys.	
4	Read any barcode with your scanner. If this barcode coding is not taught to the system, atleast the barcode No. must be read. With this the barcode number must appear in the upper window.	

5	To quit the test and to go back to the main picture use the key "P".	
---	--	---

If the result is Negative:

- Read the manual book of the scanner and check if the scanner is O.K.
- Check all the connections to the barcode-scanner for their proper connectivity.
- Please contact the customer service of INDUPRESS® if the problem still persists.

4.7 Error messages

Jede Bügelmaschine mit Mikroprozessor Steuerung hat ein Fehler-Meldesystem. Dieses ist individuell, nach den Möglichkeiten der Steuerung, abhängig von der jeweiligen Bügelmaschine ausgeführt.

4.7.1 Error description

Nr.	Error messages/English	Error description:
1	Machine is switched OFF!	You've to switch on the machine control with the green "Unlock"-button
2	Emergency button is pressed!	The Emergency button was activated or the cable connection was disrupted or the contact unit is not engaged
3	No compressed air supply!	The compressed-air is not connected or the supply hose was cut or the air pressure is under 1,5 bar or the connecting cables of the pressure switch are disrupted
4	Headguard was activated!	The headguard was activated and is uptight or the cable connection was disrupted
5	Headplate is not in upper position!	The headplate doesn't reach the upper limit position because of mechanic blockade or because of too low air pressure or too high air losses (leakages) or the control switch was misaligned or the control switch is broken or the cable connection is disrupted
6	Iron is not not on the iron-rest!	The iron is not positioned in the sensor area of the iron-rest or the sensor is misaligned or broken or the cable connection is disrupted
7	not used	
8	Close intermediate frame!	The intermediate frame wasn't closed before starting the program or the control switch is misaligned or broken or the cable connection is disrupted
9	Stacking device - position is undefined!	The stacking device wasn't in basic position before starting the program because of mechanic blockade or too low air pressure or the control switch is misaligned or broken or the cable connection is disrupted
10	Shape temperature is to low!	The pressing shapes aren't heated enough to get the requested pressing result or the heating of the shapes is broken or the safety fuse of the heating circuit was activated

11	Close waistband clip first!	The pressing program contains the function of the trouser waistband stretcher and was started before closing the waistband stretcher or the control switch is misaligned or broken or the cable connection was disrupted
12	Skirt tightener is not in position!	The skirt was not tightened before starting the program or the control switch is misaligned or broken or the cable connection is disrupted
13	No pressing program available!	The chosen pressing program place doesn't contain a pressing program which can be started
14	Pressing program data is not valid!	The pressing program is not defined for this machine or a failure occurred during the transfer of the pressing program from the MEM-Card - the program data are damaged
15	No valid reference values stored!	The necessary data reference position and/or reference pressure of the machine aren't stored and have to be set and/or measured again
16	Airbag is switched OFF!	The airbag is required for the program start and was not activated before starting the program or the switch for activating the airbag is broken
17	Fixing frame is not closed!	The intermediate frame was not closed before starting the program or the control switch is misaligned or broken or the cable connection is disrupted
18	No connection by CAN-bus!	The connection between the computer control PP41 and the electronic system in the control box is disrupted, e.g. because of broken cable connection or identical CAN addresses in the control box and the control or because of not switched on load resistor
19	Lapel shape is not closed!	The lapel shape of the machine was not closed before starting the program or the sensor of distance measurement is out of the measuring range or the sensor of the distance measurement is misaligned or broken or the cable connection is disrupted
20	Please start lapel vacuum first!	The lapel vacuum is requirement for the program start and was not activated before starting the program
21	Please start bottom vacuum first!	The bottom vacuum is requirement for the program start and was not activated before starting the program

22	Please start vacuum first!	The vacuum is requirement for the program start --> one ore more vacuums weren't activated before starting the program
23	Table is not in normal position!	The control switch of the table standard position is misaligned, broken or has a cable disruption
24	Pressing program is still running!	The program start was already activated again before the actual working program was finished
25	Headplates are not in upper position!	The head plate doesn't reach the upper limit position because of mechanic blockade or because of too low air pressure or too much air losses (leckages) or the control switch is misaligned or broken or the cable connection is disrupted
26	Carriage is not in position!	The carriage of the pressing plate has not reached the normal position before starting the program or the control switch for registration of the normal position is misaligned, broken or the cable connection is disrupted
27	No (new) jacket loaded!	The pressed jacket was not removed before a further start of the program
28	Sleeve is not tightened!	The loading procedure of the sleeve was not finished before starting the program
29	Step-mode only on master device!	You can only start the master device in step-mode. The program start of the slave device occurs this error message
30	Shapes are not open!	After finishing the pressing operation the pressing shapes didn't open because of mechanic blockade, too low air pressure or too much air losses (leckages)
31	Stretch-frame is not closed!	The stretching frame wasn't closed before starting the program or the control switch is misaligned or broken or the cable connection is disrupted
32	Hemstencil is not lowered!	The lowering of the hem pattern is required for the program start - possible causes of malfunction: the pedal for lowering of the hem pattern wasn't activated till yet or the pedal is broken or the cable is damaged or the control switch "hem pattern lowered" is misaligned, broken or the cable is disrupted
33	Armhole creaser open?	The loading cycle of the machine was not finished before starting the program or the pedal "loading - forward" is broken or the cable is disrupted or the control switch "side part

		stretcher closed" is misaligned, broken or the cable is disrupted
34	Protective motor switch?	The protective motor switch for the conveyor belt was activated. Possible causes of malfunction: At 400 V three-phase current is one phase missing or the motor drive is mechanically blocked through fabric remains etc. or the motor is broken or the protective motor switch is broken
35	Pocket flaps are not tightened!	To tighten the pocket flaps is required for a program start. They weren't tightened at all or only on one side before starting the program or the pedal "pocket flaps tighten" is broken or the cable is disrupted
36	"Change flap carrier" is switched ON!	The "flap carrier" (= carrier bar of the pocket flap pattern) is exchangeable. The switch for "change flap carrier" is switched on or broken or the cable is disrupted
37	Fixing device down? Vacuum ON?	The loading cycle of the machine wasn't finished before starting the program or the pedal "loading - forward" is broken or the cable is disrupted
38	No free memory on the MEM-CARD!	The memory card is completely full and can't take more pressing programs. A new memory card should be insert.

5 Technical data

5.1 Electric connection data

Item	Value
Power supply	3~ 400 V (Standard) 3~ 220 V (North-/Southamerika)
Control voltage	24 V=
Steam valves	24 V~
Fuses: power supply (operating company)	3 x 16 A ~
Fuses: primary machine circuit	2 x 1,6 A ~
Fuses: iron socket	1 x 6,3 A ~
Fuses: secondary machine control circuit	1 x 5 A = 1 x 5 A ~
Working place light (option)	2 x 36W
Working place light (option)	2 x 18 W

5.2 Mechanical connection data and dimensions

In the following you will find a table which contains all machine dimensions and mechanical connection data for the whole INDUPRESS® pressing equipment. The average sound emission per machine is 80dB at max. (Function: bottom plate blowing, with open head plate; duration – approx. 3,6 seconds).

Description table of the exponential numbers in brackets concerning the machine capacity:

*Änderungen vorbehalten

1. auch als 60Hz, 220V, 3Ph Version (Amerika) erhältlich
2. mit Entnahmegesetz
3. mit 2 Personen
4. für vordere und hintere Ärmelnaht
5. in Tandem (2 Maschinen / 1 Person)
6. ohne Naht öffnen
7. in Tandem (2 Maschinen / 2 Personen)

*All data with reservation and subject to change

- 1) also available as 60Hz, 220V, 3Ph version (America)
- 2) with unloading device
- 3) with 2 persons
- 4) for front and hind sleeve seams
- 5) in Tandem (2 machines / 1 Person)
- 6) without seam opening
- 7) in Tandem (2 machines / 2 Persons)

modell*	capacity*	connections*					dimensions*				consumption*			packing dimensions*				
		steam	condens	vacuum	air comp.	voltage	width	depth	height	weight	steam	vacuum	comp. air	width	depth	height	net weight	gross weight
	pcs/h	3/8" 5,5 bar	3/8" 0,5 bar	1 1/2" - 130mbar	3/8" 6 bar	400 V 3 Ph 50 Hz	mm	mm	mm	kg	kg/h	l/s	l/min	mm	mm	mm	kg	kg
IPN-HG-23-22	130	1x	1x	1x	1x	1x	1400	1200	1800	180	12	10	15	1250	1300	1700	220	320
IPN-K22-23-05	75	1x	1x	2x	2x	1x	1800	2200	2300	1000	38	80	120	2300	2450	2150	1000	1100
IPN-K22-23-09A	70	1x	1x	2x	2x	1x	1800	2200	2300	1000	38	80	120	2200	2400	2400	1000	1050
IPN-K22-23-10A	70	1x	1x	2x	2x	1x	1800	2200	2300	930	25	55	110	2200	2400	2400	1000	1050
IPN-K22-23-13A	70	1x	1x	2x	2x	1x	1800	2200	2300	1000	38	80	120	2200	2400	2400	1000	1050
IPN-K22-23-13C	70	1x	2x	2x	1x	1x	1800	2200	2300	1000	38	80	120	2200	2400	2400	1000	1050
IPN-K24-21-09A-13A	45/65 ³⁾	1x	1x	2x	2x	1x	3450	2100	2250	1200	38	80	120	2010	3450	2250	1200	1300
IPN-K24-21-10A/13C	45/65 ³⁾	1x	1x	2x	2x	1x	3450	2100	2250	1200	38	80	120	2010	3450	2250	1200	1300
IPN-K82-23-03A	80	1x	1x	2x	1x	1x	1800	2000	2240	770	24	45	60	2250	2400	2400	770	850
IPN-K82-23-03C	70	1x	1x	2x	2x	1x	1800	2000	2240	770	24	55	80	1750	1900	2000	770	850
IPN-K82-23-07A	130	1x	1x	2x	2x	1x	1800	2000	2240	770	15	40	75	1750	1900	2000	770	850
IPN-K82-23-07B	130	1x	1x	2x	2x	1x	1800	2000	2240	770	15	40	75	1750	1900	2000	770	850
IPN-K82-23-07C	65	1x	1x	2x	2x	1x	1800	2000	2240	770	15	40	75	1900	2050	2250	770	850
IPN-K82-23-07D	65/90 ⁶⁾	1x	1x	2x	2x	1x	1800	2000	2240	770	30	45	110	1750	1900	2000	835	915
IPN-K82-23-07E2	135	1x	1x	2x	2x	1x	1800	2000	2240	770	15	40	75	1750	1900	2000	835	915
IPN-K82-23-07F2	135	1x	1x	2x	2x	1x	1800	2000	2240	770	15	40	75	1750	1900	2000	835	915
IPN-K82-23-07G	115	1x	1x	2x	2x	1x	1800	2000	2240	770	15	40	75	1750	1900	2000	835	915
IPN-K82-23-07V	115	1x	1x	2x	2x	1x	1800	2000	2240	770	15	40	75	1750	1900	2000	835	915
IPN-K82-23-17A	140	1x	1x	2x	2x	1x	1800	2000	2240	1100	22	45	75	1950	2100	2100	1100	1150
IPN-K82-23-17B	100	1x	1x	2x	2x	1x	1950	2000	2240	1100	22	45	75	1950	2100	2100	1100	1150
IPN-K84-23-05	105/135 ³⁾	2x	2x	4x	2x	1x	2600	2400	2240	1230	55	120	180	2350	2500	2040	1230	1330
IPN-K84-23-09A	100/125 ²⁾ /130 ³⁾	2x	2x	4x	2x	1x	2400	2400	2240	1240	55	120	180	2350	2500	2040	1230	1330
IPN-K84-23-10A	100/125 ²⁾ /130 ³⁾	2x	2x	4x	4x	1x	2400	2400	2240	1200	50	110	170	2350	2500	2040	1230	1330
IPN-K84-23-13A	100/125 ²⁾ /130 ³⁾	2x	2x	4x	4x	1x	2400	2400	2240	1240	55	120	180	2350	2500	2040	1230	1330
IPN-K84-23-13C	100/125 ²⁾ /130 ³⁾	2x	2x	4x	4x	1x	2400	2400	2240	1240	55	120	180	2350	2500	2040	1230	1330
IPN-K84-23-19C	95/110 ²⁾ /125 ³⁾	2x	2x	2x	2x	1x	2700	2400	2240	1400	75	180	220	2035	2700	2400	1400	1500
IPN-K84-23-19D	100/125 ²⁾ /150 ³⁾	2x	2x	2x	2x	1x	2700	2400	2240	1400	75	180	220	2035	2700	2400	1400	1500
IPN-LG-23-21	200	1x	1x	2x	2x	1x	950	1450	2000	290	10	10	30	1000	1450	2000	290	370
IPN-LKV-23-04B (SET = 2x)	75/85 ²⁾ /95 ³⁾	2x2	2x1	2x2	2x1	1x	1550	1650	2050	380	27	35	75	1550	1650	2050	510	630
IPN-SC-04-01	individual	1x	1x	1x	2x	1x	1600	1300	1800	520	20	50	100	1450	1500	1900	380	420
IPN-SC-03-11	individual	1x	1x	1x	2x	1x	1100	1300	1800	130	10	15	70	1400	1200	1900	280	400
IPN-SC-03-12	individual	2x	1x	1x	1x	1x	1100	1300	1800	410	12	25	80	1400	1200	1900	270	310

modell*	capacity*	connections*					dimensions*				consumption*			packing dimensions*				
		steam	condens	vacuum	air comp.	voltage	width	depth	height	weight	steam	vacuum	comp. air	width	depth	height	net weight	gross weight
	pcs/h	3/8" 5,5 bar	3/8" 0,5 bar	1 1/2" - 130mbar	3/8" 6 bar	400 V 3 Ph 50 Hz	mm	mm	mm	kg	kg/h	l/s	l/min	mm	mm	mm	kg	kg
IPN-SCV-21-05	75/105 ³⁾	1x	1x	2x	2x	1x	1400	1300	1800	465	25	80	120	1400	1500	1900	510	555
IPN-SCV-21-07E2	100	1x	1x	2x	2x	1x	1400	1300	1800	430	15	28	75	1400	1500	1900	320	440
IPN-SCV-21-07F2	100	1x	1x	2x	2x	1x	1400	1300	1800	430	15	28	75	1400	1500	1900	320	440
IPN-SCV-21-09A (SET = 2x)	70/100 ³⁾	1x	1x	2x	2x	1x	1400	1300	1800	465	25	80	120	1400	1500	1900	320	440
IPN-SCV-21-10A (SET = 2x)	70/100 ³⁾	1x	1x	2x	2x	1x	1400	1300	1800	465	25	55	110	1400	1500	1900	320	440
IPN-SCV-21-13A (SET = 2x)	70/100 ³⁾	1x	1x	2x	2x	1x	1400	1300	1800	465	25	80	100	1400	1500	1900	320	440
IPN-SCV-21-13C (SET = 2x)	70/100 ³⁾	1x	1x	2x	2x	1x	1400	1300	1800	465	25	80	100	1400	1500	1900	320	440
IPN-SCV-21-17A	100	1x	1x	2x	2x	1x	1400	1300	1800	550	15	30	50	1400	1500	1900	340	490
IPN-SCV-21-17B	70	2x	2x	2x	2x	1x	1400	1300	1750	530	18	50	100	1850	1450	1800	340	490
IPN-SCV-21-18A	35/50 ⁵⁾	1x	1x	1x	2x	1x	1400	1300	1800	350	15	35	85	1450	1500	1900	410	460
IPN-SCV-21-19A	70/90 ³⁾ /100 ⁵⁾ /170 ⁷⁾	1x	1x	2x	2x	1x	1400	1400	1800	465	40	80	120	1450	2700	1800	760	975
IPN-SCV-21-19C	65/85 ³⁾ /95 ⁵⁾ /165 ⁷⁾	2x	2x	2x	2x	1x	2550	1300	1900	1400	40	80	120	1450	2700	1800	900	1050
IPN-SG-07-03C	70/110 ²⁾	1x	1x	1x	2x	1x	1350	1400	1800	420	16	25	30	1400	1200	1900	380	420
IPN-SG-07-07G	90/45 ⁴⁾	1x	1x	1x	2x	1x	1350	1400	1800	420	15	20	35	1400	1200	1900	360	400
IPN-SG-07-07V	90	1x	1x	1x	2x	1x	1350	1400	1800	420	15	20	35	1400	1200	1900	360	400
IPN-SG-07-11	individual	1x	1x	1x	2x	1x	1100	1300	1800	130	10	15	70	1400	1200	1900	300	410
IPN-SG-07-12	individual	1x	1x	1x	2x	1x	1100	1300	1800	400	12	25	80	1400	1450	1900	410	510
IPN-SG-07-18A-C	35	1x	1x	1x	2x	1x	1100	1300	1800	300	12	35	85	1400	1400	1900	300	400
IPN-SG-07-18B	110	1x	1x	1x	2x	1x	1100	1300	1800	300	8	30	75	1400	1200	1900	300	400
IPN-SG-07-21	120	1x	1x	1x	2x	1x	1100	1300	1800	270	10	10	30	1400	1200	1900	270	300
IPN-SG-07-25A	90	1x	1x	2x	2x	1x	1400	1300	1800	330	12	25	70	1050	1300	1750	330	430
IPN-SG-09-01	120	1x	1x	1x	2x	1x	1100	1300	1800	270	10	10	30	1450	1500	1900	380	420
IPN-SG-23-02A	120	1x	1x	1x	2x	1x	1100	1300	1800	440	25	30	40	1400	1300	1900	440	470
IPN-SG-23-03A	70	1x	1x	3x	2x	1x	1100	1300	1800	300	16	25	30	1400	1300	1900	440	470
IPN-SGV-23-03A	65	1x	1x	3x	2x	1x	1400	1300	1800	455	16	25	30	1400	1500	1900	510	540
IPN-SGV-23-05	75	2x1	2x1	2x2	2x	1x	1400	1300	1800	465	25	80	120	1400	1500	1900	480	510
IPN-SGV-23-07A	125	1x	1x	2x	2x	1x	1400	1300	1800	430	15	20	35	1400	1500	1900	320	440
IPN-SGV-23-07B	125	1x	1x	2x	2x	1x	1400	1300	1800	430	15	20	35	1400	1500	1900	320	440
IPN-SGV-23-07C	65	1x	1x	2x	2x	1x	1400	1300	1800	430	15	20	35	1400	1500	1900	320	440
IPN-SGV-23-07D	65	1x	1x	2x	2x	1x	1400	1300	1800	320	15	17	30	1400	1500	1900	320	440
IPN-SGV-23-07E2	100	1x	1x	2x	2x	1x	1400	1300	1800	435	15	17	30	1400	1500	1900	320	440
IPN-SGV-23-07F2	100	1x	1x	2x	2x	1x	1400	1300	1800	435	15	17	30	1400	1500	1900	320	440

modell*	capacity*	connections*					dimensions*				consumption*			packing dimensions*				
		steam	condens	vacuum	air comp.	voltage	width	depth	height	weight	steam	vacuum	comp. air	width	depth	height	net weight	gross weight
	pcs/h	3/8" 5,5 bar	3/8" 0,5 bar	1 1/2" - 130mbar	3/8" 6 bar	400 V 3 Ph 50 Hz	mm	mm	mm	kg	kg/h	l/s	l/min	mm	mm	mm	kg	kg
IPN-SGV-23-09A	70/100 ³⁾	2x1	2x1	2x2	2x	2x1	1400	1300	1800	375	25	80	120	1400	1500	1900	320	440
IPN-SGV-23-10A	70/100 ³⁾	2x1	2x1	2x2	2x2	2x1	1400	1300	1800	465	25	55	110	1400	1500	1900	320	440
IPN-SGV-23-11D	200	1x	1x	1x	2x	1x	1400	1300	1800	332	8	10	70	1400	1500	1900	320	440
IPN-SGV-23-13A	70/100 ³⁾	2x1	2x1	2x2	2x2	2x1	1400	1300	1800	375	25	80	100	1400	1500	1900	540	580
IPN-SGV-23-13C	70/100 ³⁾	2x1	2x1	2x2	2x2	2x1	1400	1300	1800	375	25	80	100	1400	1500	1900	320	440
IPN-SGV-23-17A	100	1x	1x	2x	2x	1x	1400	1300	1800	335	15	30	50	1400	1500	1900	320	440
IPN-SGV-23-17B	70	2x	2x	2x	2x	1x	1400	1300	1800	530	30	50	100	1850	1450	1800	340	490
IPN-SGV-23-18A	35/50 ⁵⁾	1x	1x	1x	2x	1x	1400	1300	1800	350	15	35	85	1450	1500	1900	385	410
IPN-SGV-23-18B	100	1x	1x	1x	2x	1x	1400	1300	1800	350	13	30	75	1400	1450	1900	350	420
IPN-SGV-23-19A	70/90 ³⁾ /100 ⁵⁾ /170 ⁷⁾	2x	2x	2x	3x	1x	2400	1300	1960	880	40	80	120	1450	2700	1800	760	975
IPN-SGV-23-19C	65/85 ³⁾ /95 ⁵⁾ /165 ⁷⁾	2x	2x	2x	2x	1x	2550	1300	1900	1400	40	80	120	1450	2700	1800	900	1050
IPN-SG-23-25A	125	1x	1x	2x	2x	1x	1400	1300	1800	330	12	25	70	1050	1300	1750	330	430
IPN-SGVD-23-04C	65/90 ³⁾	2x	2x	2x	2x	1x	2100	1300	1750	580	35	80	120	1400	2500	1800	320	460
IPN-SGVD-23-05	60/75 ³⁾	1x	1x	2x	3x	1x	2300	1400	1850	540	25	80	120	2150	1400	1850	815	995
IPN-SGVD-23-07E2-F2	40/50 ³⁾	2x	2x	2x	3x	1x	2200	1400	1850	650	25	80	120	1400	2500	1800	320	460
IPN-SGVD-23-09A	50/70 ³⁾	2x	2x	2x	3x	1x	2200	1400	1850	650	25	80	120	2200	1400	1850	650	840
IPN-SGVD-23-10A	50/70 ³⁾	1x	1x	2x	2x	1x	1950	1300	1750	540	45	100	160	2200	1400	1850	650	840
IPN-SGVD-23-13A	50/70 ³⁾	1x	1x	2x	2x	1x	1950	1300	1750	540	25	80	100	2200	1400	1850	650	840
IPN-SGVD-23-13C	50/70 ³⁾	1x	1x	2x	2x	1x	1950	1300	1750	540	25	80	100	2200	1400	1850	650	840
IPN-SGVH-23-08A	85	1x	1x	1x	2x	1x	1400	1250	2150	300	15	45	45	1400	1250	2150	300	450
IPN-SGVH-23-08A-3	85	1x	1x	1x	2x	1x	1400	1250	2150	300	15	45	45	1400	1250	2150	380	480
IPN-TOP-B03	100	1x	1x		1x	1x	800	1220	2150	180	25	0	15	800	1220	2150	180	210
IPN-U-23-15 (SET = 2x)	65/100 ³⁾	1x	1x	1x	2x	1x	1700	1200	1600	280	20	10	25	1900	1250	1900	335	460
IPN-US-23-23	75	1x	1x	2x	1x	1x	2150	1070	2050	270	15	18	50	1110	2150	2050	375	475
IPN-VCD-21-14A	100/125 ³⁾	2x	2x	2x	2x	1x	1100	1300	2400	465	15	25	22	1400	1300	2260	480	595
IPN-VCD-21-14C	100/125 ³⁾	2x	2x	2x	2x	1x	1100	1300	2400	465	15	25	22	1550	1300	2260	485	630
IPN-VCD-21-14B	85/100 ³⁾	2x	2x	2x	2x	1x	1400	1200	2350	380	14	35	40	1300	2350	2260	520	650
IPN-VH-23-08A	85	1x	1x	1x	2x	1x	1250	1500	2600	460	18	15	45	1400	2750	1650	460	580
IPN-VHD-23-14A	100/125 ³⁾	2x	2x	2x	2x	1x	1400	1200	2350	465	16	50	22	1250	1550	2260	500	600
IPN-VHD-23-14B	85/100 ³⁾	2x	2x	2x	2x	1x	1400	1200	2350	380	14	35	40	1300	2350	2260	520	650
IPN-VHD-23-14C	100/125 ³⁾	2x	2x	2x	2x	1x	1400	1200	2350	465	16	50	22	1250	1550	2260	500	600
IPN-VHD-23-16		2x	2x	2x	2x	1x	1400	1200	2350	465	16	50	22	1400	1300	2260	465	580

6 List of abbreviations

CE	<u>C</u> ommunauté <u>E</u> uropéenne (French for “European Union“)
DIN	German Institute for Standardization (“ <u>D</u> eutsches <u>I</u> nstitut für <u>N</u> ormung e.V.”)
etc.	<u>e</u> t <u>c</u> etera (and so on)
e.g.	which means
Fig.	<u>F</u> ig.
min	<u>m</u> inimum
max	<u>m</u> aximum
resp.	<u>r</u> espectively
TFS	<u>T</u> unnelfinisher
USB	<u>U</u> niversal- <u>S</u> erial- <u>B</u> us

7 Glossary

Bargraph	Graphic display of the measured setting value, showing modifications through the length of the bar in accordance with the set value.
CE marking	Designation for specific products according to the laws of the EU (European Union) in connection with the product safety within the European Economic Area (EEA) and the European Community (EC) being a part thereof. With the <i>CE marking</i> the manufacturer confirms the <i>conformity</i> of the product to the applying EC directives and the compliance with the "fundamental requirements" stipulated therein.
Display	User interface
EC declaration of conformity	The EC declaration of conformity is the basis of the CE marking of the respective product. With the EC declaration of conformity the manufacturer confirms that a product circulated by him complies with, e.g. is in agreement with, the basic health and safety requirements of all relevant European directives.
finish, finishing	Finishing operation
Start screen	The start screen means the user interface which appears as soon as the control has been started resp. after the button >Entry< has been pushed.
Touchscreen	Monitor (computer operation / user interface) which controls the run of the program after a touch on parts of a picture (Pictogram). The technical implementation of the command entry is practically "transparent" to the user.
USB stick	<u>U</u> niversal- <u>S</u> erial- <u>B</u> us- <u>S</u> tick; small storage medium resp. data memory
User interface	Display

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10 Annex

10.1 List of spare parts

For a fast and correct processing of your order the following details should be provided:

- Machine's order number
- Spare part type or label
- Spare part number
- Order quantity

Terms of delivery

All spare part orders are subject to the following conditions:

- Orders made by phone are only valid if confirmed in writing.
- Delivery is affected according to our general terms and conditions of business.



Notice

A detailed list of spare parts can be found in the documentation!

10.2 EC declaration of conformity



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