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Instruction Manual

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Always state *Serial No* and *Voltage/frequency* if you have technical questions or when ordering spare parts. You will find the Serial No. and Voltage on the type plate of the machine itself. We may also need the *Date* and *Article No* of the manual. This information is found on the front cover.

The following restrictions should be observed, as violation of the restrictions may cause cancellation of Struers legal

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Struers Pederstrupvej 84 DK-2750 Ballerup Denmark Telephone +45 44 600 800 Fax +45 44 600 801



CitoPress-10/ -20 Safety Precaution Sheet

To be read carefully before use

- 1. The operator should be fully aware of the use of the machine according to the Instruction Manual.
- 2. The machine must be placed in a well ventilated room on a working table that is strong enough to support its weight, level and at an appropriate working height.
- **3.** Ensure that the actual voltage corresponds to the voltage stated on the back of the machine and on the heating/cooling unit. The machine must be earthed.
- 4. Ensure that the water connections are mounted correctly and without leaks. The main water supply should be turned on when the machine is in use. The main water supply should be turned off if you leave the machine unattended.
- 5. During operation cooling water from the water outlet tube will be *very hot*. Ensure that it is not possible to come into contact with the cooling water.
- **6.** Ensure that the outlet hose is attached to the water outlet system in a safe way.
- **7.** Only use water (or water modified with approved Struers additives) as a cooling medium.
- After installing a mounting unit: Ensure that the arrows are aligned to lock the mounting unit into position. Ensure that the retaining screw is tightened. Close the cover and replace the top plate.
- **9.** Ensure that the top closure with upper ram is either correctly mounted on the mounting cylinder or completely removed from the mounting cylinder before starting the press.
- **10.** Take care when handling chamfered rams (option) as the metal edges may be sharp.
- **11.** Do not operate the mounting press with a higher force/pressure than recommended for the actual cylinder diameter and resin in Struers Application Guide for Hot Mounting.

- **12.** Following a heating cycle, ensure the mounting cylinder is cooled for a minimum of two minutes before opening.
- **13.** The machine must be disconnected from the mains prior to any service.
- **14.** Do not operate the machine whilst assembling or disassembling the mounting unit.
- **15.** During operation, always ensure that the top closure is tightly fastened.
- **16.** Do not leave the machine unattended while a mounting process is running.
- **17.** In the event of a hydraulic leak or any other form of failure, the machine must be serviced immediately.

The equipment is designed for use with consumables supplied by Struers. If subjected to misuse, improper installation, alteration, neglect, accident or improper repair, Struers will accept no responsibility for damage(s) to the user or the equipment.

Dismantling of any part of the equipment, during service or repair, should always be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).

The equipment should only be used for its intended purpose and as detailed in the Instruction Manual.



Disposal

Equipment marked with a WEEE symbol $\stackrel{\boxtimes}{=}$ contain electrical and electronic components and must not be disposed of as general waste.

Please contact your local authorities for information on the correct method of disposal in accordance with national legislation.

User's Guide

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1. Getting Started

Checking the Contents of Packing

CitoPress-10 and 20

The packing box contains the following items:

- 1 CitoPress-10 or 20 machine
- 1 Swivel arm (2 for CitoPress-20)
- 3 Power cables
- 1 Pressure hose
- 1 Filter gasket
- 1 Filter gasket reduction ring
- 1 Gasket
- 1 Gasket for reduction ring
- 2 Measuring spoons for mounting resin
- 1 Funnel
- 1 Set of Instruction manuals

Mounting Unit

- 1 Mounting unit
- 1 Top closure with upper ram
- 1 Lower ram
- 1 Piston pin
- 1 Mount release agent, Struers AntiStick
- 1 Scraper
- 1 Lubricant

Unpacking CitoPress

- Remove the coach screws from all of the transport brackets that secure CitoPress to its transport pallet.
- Remove the brackets.

Placing CitoPress

CitoPress should be placed on a sturdy table or work bench at an appropriate working height.

- Place the machine close to connections for mains power, water (inlet) and water (outlet).
- If the machine is to be connected to a recirculation cooling unit, make sure that there is room for it underneath the table.

Getting Acquainted with CitoPress

Front View

Take a moment to familiarise yourself with the location and names of CitoPress' components.



- ① Front Panel
- ② Mounting unit covers
- ③ Top closure
- ④ Mounting units
- Swivel arm for top closure
- 6 Mounting unit top plate
- Plastic cap (CitoDoser mounting point)

Rear View



- ① Mains connection socket
- ② Mains switch
- ③ Fuse holders
- ④ Fuse holder: hydraulic pump
- ⑤ Water inlet
- © Cooli unit 24 V / CAN control cable connection
- ⑦ RS232 service socket
- ⑧ Ventilation valves
- Water outlet tube

Noise Level

The noise level of the machine is 63 dB (A) measured when the pump is running, at a distance of $1.0 \text{ m/39.4}^{"}$ from the machine.

Supplying Power

Always remember to switch the power off when installing electrical equipment.

Important Check that the mains voltage corresponds to the voltage stated on the type plate on the machine

Voltage/ Frequency	Maximum Load
CitoPress-10	
100-120 V / 50 Hz	13 A
100-120 V / 60 Hz	13 A
200-240 V / 50 Hz	5.6 A
200-240 V / 60 Hz	5.6 A
CitoPress-20	
100-120 V / 50 Hz	13 A
100-120 V / 60 Hz	13 A
200-240 V / 50 Hz	10 A
200-240 V / 60 Hz	10 A

CitoPress are shipped with 3 types of Mains cables:



Connection to the Machine

Single-phase Supply



All cables are equipped with an IEC 320 cable connector that has to be connected to the CitoPress.

The 2-pin (European Schuko) plug is for use on single-phase connections.

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows: Yellow/green: earth

Brown: line (live) Blue: neutral



If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows: Green: earth

Black: line (live) White: neutral

2-phase Supply



The 3-pin (North American NEMA 6-15P*) plug is for use on 2-phase power connections. (This cable is recommended for use with CitoPress-20).

If the plug supplied on this cable is not approved in your country, then the plug must be replaced with an approved plug. The leads must be connected as follows: Green: earth

Black: line (live)

White: line (live)

WARNING!

DO NOT use this cable to connect equipment that use a 110V power supply. Failure to adhere to this may result in material damage.

*Note for installation in North America and Japan: CitoPress-20 must be connected to 200-240V to be able to heat on both cylinders simultaneously (use cable NEMA 6-15P). If CitoPress-20 is connected to 100-120V (cable NEMA 5-15P), only one cylinder can heat at a time. **Opening the Ventilation Valves**

To equalise the pressure in the machine's hydraulic system, it is necessary to open ventilation valves. These valves are closed during transport and are protected by a plastic cap.

- Remove the plastic caps from the valves.
- Fully open the valves.
- Secure the valves in the open position using the locking nut.

Note: CitoPress-10 has only one ventilation valve.

Supplying Water

Connecting the Water Inlet



Cooling water can be provided either by the mains water supply or by a recirculation cooling unit. For instructions on how to connect a recirculation cooling unit, see "*Connecting a Cooli Cooling Unit*".

To connect to the mains water supply:

- Mount the pressure hose onto the water inlet tube on the back of CitoPress.
 - Insert the filter gasket in the coupling nut with the flat side against the pressure hose.
 - Tighten the coupling nut completely.
 - Mount the other end of the pressure hose on the water mains tap for cold water:
 - Mount the reduction ring with gasket on the water mains tap, if necessary.
 - Tighten the coupling nut completely

Important Only connect to cold water

Connecting the Water Outlet

Place the unconnected end of the water outlet tube in a drain.

Note: Ensure that the tube is not obstructed and that there is sufficient fall (the drain is lower than CitoPress) so that the cooling water drains away through the tube.

Installing the Lower Ram

■ Place the lower ram on the top of the piston rod.



 Turn the lower ram so that the holes in the axle journal on top of the rod and ram line up and insert the piston pin.
 Make sure that the ends of the pin do not protrude.



Installing the Mounting Unit

Important:

Do not operate the machine whilst installing the mounting unit.

Connect the water and electrical connections in the order described. Connecting the water connections before the electrical connections could result in water being leaked into the electrical connections and lead to a short.

- On CitoPress
- Remove the top plate.and open the cover.
- Remove the top closure from the mounting unit.
- Unscrew the retaining screw.
- Place the mounting unit over the hydraulic cylinder.
- Rotate the mounting unit to line up the keyhole locking slots with the 4 studs on the hydraulic cylinder.

Mounting Unit: Bottom View



- ① Retaining screw
- ② Keyhole locking slots
- ③ Outlet connection: male fitting (blue)
- ④ Inlet connection: male fitting (red)

- Lower the unit onto the studs of the hydraulic cylinder.
- Hold the mounting unit's cables and water couplings to one side to ensure that they do not restrict its movement when locking it into position
- When the mounting unit is located on top of the hydraulic cylinder, turn it clockwise until the two arrows are aligned and it locks into position.





Important: Double check that the mounting unit is locked into position. If it is not, CitoPress may be damaged during operation.

- If the mounting unit is to be mounted on the right tower (CitoPress-20 only), move the retaining screw to the hole for retaining screw for unit 2 (see illustration).
- Tighten the retaining screw.
- Connect the mounting unit's two loose cables to the two sockets on CitoPress.

The large plug to the large socket and the small plug to the small socket. Tighten the coupling nuts on both plugs to secure the connection.



- Connect the male inlet and outlet water couplings on the mounting unit and to the female fittings on CitoPress.
 - Hold the spring-loaded collar down and connect the water coupling.
 - Release the spring-loaded collar and check the water connection is secure.

Mounting Unit: Side View



- ① Retaining screw
- ② Hole for retaining screw for unit 2 (right tower)
- ③ Outlet connection: male fitting (blue)
- ④ Inlet connection: male fitting (red)
- Close the cover
- Replace the top plate.

Important

To ensure optimal performance and operator safety:

- Ensure that the arrows are aligned to lock the mounting unit into position.
- Ensure that the retaining screw is tightened.
- Close the cover and replace the top plate.

Installing the Swivel Arm

Mounting the Top Closure

- Mount the swivel arm by sliding it through the hole in the top plate and into the sleeve in the mounting unit cover.
- Mount the top closure in the hole in the top of the swivel arm.

Important After changing the mounting unit, change to the appropriate size of top closure.

Removing the Mounting Unit

Important

Do not operate the machine whilst removing the mounting unit. Disconnect the machine from the mains electricity and water supplies.

Important

During operation, the mounting unit will be very hot. Before removing the mounting unit, ensure that it is cool enough to be handled.

- Remove the top closure.
- Remove the swivel arm by lifting it out of its mounting.
- Remove the mounting unit's top plate.
- Open the mounting unit's cover.

Important

Disconnect the water and electrical connections in the order described. Disconnecting the electrical connections before the water connections could result in water being leaked into them.

- Disconnect the mounting unit's male inlet and outlet water couplings from the machine's female fittings. Wait 5 seconds to allow the water to flow out of the cooling coil.
- Loosen the coupling nuts on both the large and small electrical plugs then pull the plugs out of the sockets.
- Loosen the retention screw.
- Turn the mounting unit in an anti-clockwise direction until it stops.
- Lift the mounting unit free of the hydraulic cylinder.

Removing the Lower Ram

- Switch CitoPress on.
- Press and hold the RAM DOWN key for a few seconds to lower the ram to its lowest limit.
- Switch CitoPress off.
- Push the piston pin out of the lower ram.
- Remove the lower ram from the axle journal.

Hint

If it is difficult to access the piston pin:

- Switch CitoPress on.
- Press and hold the RAM UP

 key to raise the Mounting Unit clear of the four studs.
- Switch CitoPress off.

A build-up of resin can make it difficult to removing the lower ram from the mounting unit.

Please contact a Struers Field Service Engineer for advice on how to loosen the lower ram.

Changing the Mounting Unit

Follow the instructions for "*Removing the Mounting Unit*" and "*Installing the Mounting Unit*".

Installing CitoDoser (option)

Installing the CitoDoser Unit's Base Plate







Important	-
Switch the machine off while installing the dosing unit.	

- Using a screwdriver or similar tool, carefully remove the plastic cap, which covers the CitoDoser mounting point.
- Carefully withdraw the small piece of plastic pipe, and the cable that it is attached to, from the mounting point hole.
- Remove the piece of pipe and discard it.
- Connect the plug ① on the end of the cable to the socket on the bottom of the dosing unit base plate ④.
- Locate the base unit in the mounting hole by slipping the bayonet fitting ③ over the shaft ② inside the mounting hole.
- Screw the base plate firmly into position using its Allen bolt ⑤.

Installing the CitoDoser Dosing Unit



- ① Spout
- ② Lid
- ③ Screw conveyor housing

Mounting the CitoDoser Dosing Unit

- Hold the unit above the dosing unit base plate with the spout ① to the front of the machine.
- Place the rear of the dosing unit, onto the rear of the base plate first.
- There are 2 location slots on the base plate and dosing unit (front and rear), which must be lined up. If necessary turn the dosing unit slightly to one side until the location slots line up, the dosing unit will be located flat on top of the base unit.
- Turn the dosing unit to lock it securely onto the base plate.

Before using the dosing unit a method must be associated with the unit, see "*Creating and Deleting CitoDoser Associations*".

Removing the CitoDoser Dosing Unit

- With the spout in the centre of the machine, line up the location slots on the dosing unit and base plate.
- Lift the front (spout end) of the dosing upwards. When the location slots are lined up properly, it will be possible to lift the front of the dosing unit clear of the base plate.
- When the front of the unit is clear of the base plate, push the dosing unit backwards slightly and lift at the same time. When the rear location slots are lined the whole of the dosing unit can be lifted free of the base plate.

For information on how to empty and clean the CitoDoser Dosing Unit, see "*Emptying the CitoDoser Dosing Unit*" and "*Cleaning the CitoDoser Dosing Unit*".

Software Settings

Initial Start Up Screen

When CitoPress is initially powered up, using the mains switch, the following two screens will be displayed:



Version 1.00

Please Note The sample screens in this User's Guide show a number of possible texts. The actual display screen may differ from the samples in the Manual.

A pop-up will appear to select the preferred Language setting:

	SELECT LANGUA	IGE
	English	
<i>F7</i> 4	Deutsch	
-	Français	
SERVICE		
Total nui		
Hounts J		T

Service Information Start Up Screen



CitoPress-20

SERVICE INFO

Total operation time: 1620 h Time since last service: 1259 h

Main Menu

The MAIN MENU will then automatically replace these screens.

MAIN MENU	 	
Process		
Extensions		
Configuration		
Service		

Using Software Menus

Multi-function Knob



ESC key

Use the multi-function knob and Escape key to navigate and use the CitoPress' software menus

- Turn the knob to navigate to menu items.
- Push the knob to select items.
- Turn the knob to change a selected item's value.
- Push the knob to store a value that has been changed.

Press the ESC key to return to the previous menu.

- Press the ESC key to exit a selected item, discarding any changes that have been made.
- Press the ESC key to access the software's top-level menus.

Configuration and Extensions Menus Configuration Menu

Configuration Menu			
	CONFIGURATION		
	Language	English	
	Display contrast	25	
	Temperature unit	0C	
	Pressure unit	bar	
	Acoustic signal	ON	
Language Display contrast	The language can be set to E Spanish or Japanese. The contrast settings of the d preferences (default value: 22 0-50).	inglish (default), German, French, isplay can be adjusted to suit individual 2, adjustment range:	
Temperature unit	The temperature display units either Celsius or Fahrenheit.	s, which can be set to be displayed in	
Pressure unit	The pressure display units, w or psi.	hich can be set to be displayed as Bar	
Acoustic signal	The option to have the machi the mounting process for a sa switched on, CitoPress will "b been completed. In addition, keypads are pressed.	ne signal audibly when it has completed ample can be switched ON or OFF . If beep" when the mounting process has CitoPress will also "beep" when	

Extensions Menu					
	EXTENSIO	N5			
	Standby Standby t Operation Option act	temperature mode tivation:	OFF 45 Configuration	°C	
	Database enabled Sensitivity enabled				
Standby	The Standby opt	tion can be sw	itched ON or OF	ŦF.	
Standby temperature	The <i>Standby temperature</i> (the temperature that the machine will maintain in standby mode) can be adjusted.				
Operation mode	It is possible to select three different operation modes. Different operation modes allow operators different levels of access to parameters as follows:				
	Configuration: Development:	Full functional No access to menu, excep	ality, access to a parameters in t t Display contras	Il parameters. he CONFIGURATION	
	Production:	No access to Only Start, S	parameters. top and Dosing	can be operated.	
Option activation	Database and Se Options are enal supplied by Strue pressing the kno enter passwords "Using the Enter	ensitive Option bled by enterin ers. Selecting bb opens the E c. For more infor <i>Name Menu</i> ".	ns (if purchased) ng the appropriat the <i>Option activ</i> inter password n ormation on how) can be enabled. te unlock code r <i>ation</i> menu item then nenu. Use this menu tc / to use this menu, see	



$\mathbf{\hat{O}}$	Turn knob to select the language you prefer.
Ļ	
	Push knob to accept the language.
Ļ	The <i>Configuration</i> menu now appears in the language you have chosen.
ESC	Press Esc to return to the MAIN MENU.

2. Basic Operations



Control Panel Functions

Name	Кеу	Function	Name	Кеу	Function
ESCAPE	Esc	Moves one step backward in menus. (If modified parameters have not been stored, they are discarded.)	MULTI- FUNCTION KNOB		Push knob to select function. Turn knob to adjust settings. Push knob to store modified settings.
DOSING		Starts the dosing unit (option). The dosing unit stops automatically when the amount of resin (stated in the method) has been dispensed.	TOGGLE UNIT	1⇔2	Switches between the machine's two mounting units. N.B. CitoPress-20 only.
RAM UP		Starts the upward movement of the lower ram. The ram automatically stops when its upper limit is reached.	RAM DOWN	▼	Starts the downward movement of the lower ram. The ram automatically stops when its lower limit is reached
START	\Diamond	Starts the machine and recirculation cooling unit, if one is connected.	STOP	\bigcirc	Stops the machine and recirculation cooling unit, if one is connected.

Process Display

The *Process* display (see illustration, below) has four main areas: **A** METHOD

- B RESIN / DOSING
- **C** HEATING
- **D** COOLING

0	PROCESS SETTINGS DOSER	SETTINGS SI	AVE AS		
	METHOD	HEATING			!
<u>م</u>	M.ClaroFast		\Box	Ŧ	⊨c
A		180 °C	4.0min	350 bar	
	RESIN / DOSING		COOLING		
В—	ClaroFast	E	Θ		-D
	25 ml	Low	6.5 min		
		' N			•

The display also has an upper and lower bar ① and ②. The upper bar ① provides additional top-level menu items: *PROCESS, SETTINGS, DOSER SETTINGS* and *SAVE* AS. The lower bar ② provides additional status and context information, for example, which mounting unit's process information is being displayed (unit 2) and the cylinder diameters (30 mm and 30 mm above).

The *METHOD* area (**A**), displays the selected method. The lock (circled) shows whether the method is locked or unlocked.

Note: If the Sensitive option has been installed, the display shows whether it is switched on or off for the current method.

The RESIN / DOSING area (**B**), displays information about the resin being used, and whether dosing is manual or automatic.

Note: If a CitoDoser (option) is being used, the value displayed will be a percentage not a volume.

Method

Dosing

Heating

The HEATING area (**C**), displays information about the selected <u>method's heating values</u>:

- Temperature
- Duration
- Pressure



PROCESS	SETTINGS	DOSER S	ETTINGS SF	IVE AS	
	METHOD			HEATING	
M New	method		*		Ŧ
 	Sensitiv	e ON	80 °C	5.0min	50 bar
			180 °C	5.0min	250 bar
RESI	(N / DOSIN	IG		COOLING	
RESI Mult	iFast Black	IG	R		
RESI Mult 2(IN / DOSIN iFast Black D ml	IG	72 High	COOLING	

Cooling

The COOLING area (**D**), displays information about the selected cooling method:

- Speed: High, Medium or Low
- Cooling time

Mounting a Specimen Selecting a Mounting Method

The CitoPress can either be operated using a Struers method (which is a stored set of process settings), or a User method. Both are referred to as automatic, all parameters are retrieved automatically. Alternatively, the press can be operated by simply modifying the parameters in the process menu. This is referred to as manual operation.

CitoPress-10 and -20 come standard with a library of preset Struers methods matching the Struers' range of hot mounting resins (the On Screen Hot Mounting Application Guide). Choosing any of the Struers methods will automatically adapt the selected method to the cylinder size, thereby greatly reducing the risk of errors.

Up to two methods can be stored on the mounting press. If additional storage space is required, the Database option is available. After activation of this option, a total of 15 methods can be stored in the machine's database.

Sensitive mode Option

Sensitive mode, with a dual heating phase, is used for fragile/porous specimens.

PROCESS	SETTINGS	DOSER S	ETTINGS SF	AVE AS	
	METHOD			HEATING	
Mew D	method Sensitiv	e <mark>ON</mark>	180 °C 180 °C 180 °C	 4.0 min 1.0 min 	▲ 250 bar 50 bar
PECI					
nc31	IN / DOSI	1G		COOLING	
Mult	iFast Black	4G <	R		
Mult 2(iFast Black D ml	4 G	72 High	5.0 min	

Adjust the Heating values to suit the specimens to be mounted. E.g.

Fragile/brittle specimens:	Phase 1 Phase 2	Apply Heat to melt the resin, no Pressure Apply Heat and Pressure
Metal specimens:	Phase 1	Deduct 1 minute from the total heating time.
	Phase 2	For 1 minute, Apply Heat, no Pressure
PCB, plastics and other poor conductors:	Phase 1	Apply Heat to melt the resin, no Pressure for 15 minutes
	Phase 2	For 1 minute, Apply Heat and Pressure

Manual operation	When operated using manual settings, you will need to change the process settings manually each time you process a sample (unless the previously used settings are appropriate for the next sample).		
	Note: When a CitoDoser (option) dosing unit is used and the database option is enabled, the dosing unit stores information about which method should be used for a particular resin. Placing the CitoDoser on CitoPress will select this method.		
Reuse the Method Settings for the Next Sample	After completing a sample preparation, CitoPress displays the last used process settings (this also applies after restarting). If these settings are appropriate for the next sample to be processed, no changes are necessary and you can begin placing the specimen.		
Change the Method Settings for the Next Sample	 If the process settings last used by CitoPress are not appropriate for processing the next sample, they can be changed by: Editing the method's values manually. Selecting a stored method. 		

Changing the CitoDoser dosing unit (option).
Editing the Method's Values Manually

To edit a mounting method manually:

Note: The example below is based on editing the method's temperature value; the procedure for editing other values is the same. More than one of the method's values can be edited.



In the *PROCESS* menu, turn knob to highlight the HEATING temperature item.

↓



Ť

Push knob to edit the value.

Ļ

A scroll box appears around the value.

PROCESS SETTINGS DO	SER SETTINGS SAV	VE AS	
METHOD		HEATING	
M ClaroFast	E		Ŧ
	180 🖨	4.0min	350 bar
RESIN / DOSING		COOLING	
ClaroFast	E	Ξ	
25 ml	Low	6.5min	



Turn knob to increase or decrease the numeric value.

PROCESS SETTINGS DOS	R SETTINGS SAVE AS	
METHOD	HEATING	
M ClaroFast		
₿		Dbai
RESIN / DOSING	COOLING	
🔊 ClaroFast		
	Law 6 Emin	
25 ml	LU# 0.31111	



Ť

Push knob to accept the new value.

Ļ

PROCESS	SETTINGS	DOSER S	ETTINGS S	AVE AS	
	METHOD			HEATING	
МСору	of Claro	Fast		\Box	Ŧ
ല്			160 °C	4.0 min	350 bar
RESI	(N / DOSI	NG		COOLING	
RESI	ин / DOSI oFast	NG	R		
RESI	in / DOSI oFast 5 ml	NG	₽ Low	COOLING 6.5 min	

Note:

When you edit a stored method's values, a temporary copy of the method is created. This is called "Copy of *Method Name*", for example, "Copy of ClaroFast". These values can be used to process the samples but will not be stored to the database unless the method is saved. If the machine is switched off, before it is stored, the temporary copy will be lost. See, "Creating and Storing User Methods in the Database" (option).

Selecting a Stored Method

To select a stored mounting method from the database:



From the *PROCESS* menu, turn knob to highlight the *METHOD* item.

PROCESS	SETTINGS	DOSER S	ETTINGS S	AVE AS	
	METHOD			HEATING	
MClar	oFast		∎=	\Box	±
8			180 °C	4.0 min	350 bar
RES	IN / DOSI	NG		COOLING	
RES Clar	ін / Dosi i oFast	NG	2		
RES Clar 2	и и объл [.] oFast 5 ml	NG	₽ Low	сооцтна	



Push knob to activate the SELECT GROUP pop-up menu.



Ť



Turn knob to highlight the required group

Push knob to activate the SELECT METHOD pop-up.



Changing Method by Changing the CitoDoser Dosing Unit (option) When a dosing unit is replaced with another, the method that is associated with the new dosing unit is automatically recalled from the database (option). See also, "*Creating and Deleting CitoDoser Associations*".

Placing the Specimen	 If necessary, use the toggle unit button (1→2) to switch to the required cylinder. Press and hold RAM UP ▲ to raise the lower ram to its upper limit. Apply <i>"Mould Release Agent"</i> to the surface of the lower ram.
	Important A thin layer of mount release agent must always be applied to the mounting rams to prevent the resins sticking to the surface. Using Struers' AntiStick a thin layer of stearate powder can easily be dabbed on the rams.
	Place the specimen on the ram. The specimen must be clean, dry and free from grease. The distance between the specimen and the cylinder wall must be minimum 3 mm to avoid cracks in the resin.
Pouring Resin over the Specimen using the Dosing Unit (option)	 Press and hold the RAM DOWN ▼ key for a few seconds to lower the ram to its lowest limit. Swivel the CitoDoser dosing unit's outlet spout over the mounting unit. Press the dosing key ¬.
	<i>Note:</i> If the lower ram has not been lowered when pressing the dosing key, a warning will be displayed.
	The dosing unit will automatically dispense the preset amount of resin for the selected method.
Dosing Extra Resin	Press the dosing key again, to add a small amount (20% of the

preset amount).

Pressing **STOP** \bigcirc and then pressing the dosing key will re-set the amount of resin dosed to the preset amount (100%).

Pouring Resin over the Specimen Manually Fill a suitable amount of resin into the cylinder using the funnel supplied.

Important

Always make sure there is sufficient resin to cover the sample after compression. Please note that the volume of the resin reduces when the granulate becomes compressed. If insufficient resin is used, the rams may come in contact with the sample, and the rams and cylinder may be damaged.

Please refer to the enclosed, printed Application Guide for Hot Mounting.

Important

The "Mould Release Agent" must always be applied to the mounting rams as a thin layer to prevent the resins sticking to the surface. Using Struers' AntiStick a thin layer of stearate powder can easily be dabbed on the rams.

Installing the Top Closure



- Before use, remove resin dust from the upper part of the mounting cylinder.
- Clean the cylindrical surface of the upper ram. Cured resin can easily be removed without damage to the surface of the ram using the scraper supplied.
- Apply "Mould Release Agent" to all accessible surfaces of the upper ram.
- Place the top closure with the upper ram on the mounting cylinder.
- Press the top closure straight down, turning it clockwise until it is tight.

Important

Ensure that the top closure is tightly fastened, before starting the mounting process.

Important

If the ram does not fit easily into the cylinder, then check ram and cylinder for cured resin. The tolerance between the cylinder and the ram is very small and even small amounts of resin from previous mountings may cause problems.

Starting the Mounting Process

Display during the Mounting Process

One unit (CitoPress-10/20)

■ Start the mounting process by pressing START .

The display with the mounting parameters will change to a new display, which illustrates the progress of the current stage (Dosing, Heating, or Cooling) and the time remaining before the mounting process is complete.

PROCESS	SETTINGS	DOSER SET	TINGS	SAVE AS		
	Remainii	ng time:	Heati	ng:		
	E.C	$\mathbf{}$	Cooli	na.		
	ວ:ບ	JU –				
	30mm 	PROCESS	RUNN	ING	30mm	
PROCESS	SETTINGS	DOSER SET	TINGS	SAVE AS		
	Remainiı	ng time:	Heati	ng:		
	F •C	\mathbf{n}	Coolii	ng:		
	D. U	0				
	Remainii	na time:	Heati	na:		
	7.0	\cap	Coolii	ng:		
	- F - V	/ U				
		_				

Two units (CitoPress-20)



Switching between LEFT and RIGHT CYLINDER (CitoPress-20) Press toggle unit button (1+2) to switch between the two cylinders. The arrow on the lower bar changes to indicate the unit that the information being displayed applies to. The selected unit is white, the other unit is gray.

PROCESS	SETTINGS	DOSER S	ETTINGS S	AVE AS	
	METHOD			HEATING	
Molt	iFast Black	(Ŧ
₿			180 °C	4.0min	250 bar
RES	IN / DOSIN	1G		COOLING	
RES Mult	in / Dosin iFast Black	4 G	R	COOLING	
RES Mult	IN / DOSIN iFast Black Oml	1 G	12 High	COOLING 3.0 min	

- Stopping the Mounting Process
- The machine automatically stops when the cooling time has elapsed.

The machine can be stopped at any time during the mounting process by pressing STOP \bigcirc .

Important:
If you have stopped the machine during the mounting process:
Cool the mounting cylinder a minimum 2 min before opening, after a heating period. Please note that the mount may be destroyed.

Removing the Top Closure

When the mounting process is finished:

- Turn the top closure counter-clockwise until released from thread.
- Press RAM UP ▲ to raise the lower ram to its upper limit.
- Turn the top closure to one side to give access to remove the mount.

Accumulated resin can restrict movement or cause damage to the rams.

To ensure a longer lifetime for your CitoPress Struers strongly recommends daily cleaning.

Daily Maintenance

Removing Residues

Cleaning the Rams

Clean all accessible surfaces with a moist cloth.

- Open the cover (see, "*Removing the Mounting Unit*") and remove residues from exposed surfaces surfaces, including the threads.
- Close the cover, see "Installing the Mounting Unit".

Before each mounting:

- Check that there is no resin left on the flat surface of the rams from previous operations.
- Clean the cylindrical surface of the upper ram. Cured resin can easily be removed without any damage to the surface of the rams using the scraper supplied.

Important

If the sides of the rams are heavily scratched, they must be replaced. If the top closure has been dropped, causing a dent or deformation in the edge of the upper ram, the ram must also be replaced.





- ① Handles.
- ② Top closure cap.
- ③ Top nut.
- ④ Retaining washer.
- Spring.
- 6 Spacer.
- ⑦ Upper ram.
- 8 Rod.
- Unscrew the handles (①).
- Remove the handles by turning them counter clockwise.
- Remove the top closure cap (2).
- Remove the retaining washer (④).
- Remove the top nut (③), spring (⑤) and spacer (⑥).
- Pull out the upper ram. Do not remove the rod ([®]) from the upper ram unless absolutely necessary.
- If it is necessary to remove the rod, hold the upper ram (⑦) in a vice or a similar device. The ram surface **must** be protected with plastic or soft metal.

A build-up of cured resin may make it difficult to close the top closure.

Remove any cured resin on the threads of the top closure and mounting unit using the scraper supplied.

Tip If there is a slight friction in the threads, lubricate using a dry lubricant such as Molybdenum Sulphite or graphite. DO NOT lubricate the threads in the joint between the top closure and the mounting cylinder with oil or grease. The mounting cylinder operates at high temperatures, therefore only a dry lubricant, resistant to high temperatures, can be used.

Lubricating the Threads of the Top Closure

Weekly Service

Checking the Cooling Water Struers Cooling Unit, option

Monthly Service

Replacing the Cooling Water Struers Cooling Unit, option

Cleaning under the Lower Ram

Check the level of cooling water in the cooling unit every week.

For other, more detailed, instructions on the use of the Recirculation Cooling Unit, see the instruction manual.

Replace the cooling fluid in the cooling unit tank.

For other, more detailed, instructions on the use of the Recirculation Cooling Unit, see the instruction manual.

When mounting, some old cured resin will fall down from the lower ram and build up underneath. The cured resin must be cleaned away, to stop it harming the machine.

A pop-up will appear after 200 mounting cycles (default value) to remind the user to clean under the lower ram.

- Press **OK** when the area under the lower ram has been cleaned.
- Press Later to continue operating CitoPress.
- Remove the mounting unit.
- Remove the piston pin and dismount the lower ram.
- Remove the resin under the lower ram with a cloth or a soft brush.
- Remount the lower ram and secure with the piston pin.
- Install the mounting unit.

Yearly Service Tighten the Fitted Bolts

Cleaning the Water Filter

Using a 5 mm Allen key, check that the bolts that hold the mounting unit to the cylinder are tight. (The bolts should be tightened with a force of maximum 5 Nm / 4 lbf-ft).

Over time small particles may collect in the water filter and should be



removed. To clean the water filter: Switch off the water supply and dismount the water inlet tube. Remove the filter gasket from the coupling nut and rinse thoroughly with water. Reconnect the water inlet. (See "Connecting the Water Inlet"). Decalcifying the Cooling Coil When using cooling water in areas with a high chalk or mineral content, deposits can build up in the cooling coil. This may reduce the cooling effect, so once a year the cooling coil should be decalcified. Remove the mounting unit. (See, "Removing the Mounting Unit".) Drain water from the cooling system. ■ Flush the coil with a **mild** decalcifying fluid*, such as that used for coffee machines and leave for 1/2 hour. Flush the cooling coil with clean water. Re-install the mounting unit (see, "Installing the Mounting Unit". If there are still deposits in the coil, repeat this procedure and leave the decalcifying fluid in the mounting unit overnight before flushing with water the next day. **Decalcifying Fluid *** For decalcification of the mounting unit acetic acid or citric acid is recommended. Do NOT use oxydising acids such as nitric acid (HNO₃), this will degrade the copper of the mounting unit, and may generate toxic dases. Do NOT use acids in combination with oxidising agents such as hydrogen peroxide (H_2O_2) , this will degrade the copper of the mounting unit.

Emptying the CitoDoser Dosing When the optional CitoDoser is fitted to CitoPress, the CitoDoser Unit Service menu option is used when emptying the dosing unit of resin. From the Service menu, Turn knob to highlight CitoDoser. ſ Push knob to enter the CitoDoser menu. _ Ť SERVICE Statistics Sensors CitoDoser Ť Turn knob to highlight Doser resin feed. Ť DOSER Doser resin feed Press enter to Start/Stop Doser resin feed ↓ Push knob to Start/Stop the Doser resin feed. . The following warning will be displayed.



Push knob to start emptying the CitoDoser.

Cleaning the CitoDoser Dosing Unit



- ④ Nozzle cover
- Screw conveyor
- Place the CitoDoser on a flat steady surface.
- Remove the lid ②.
- Remove the nozzle cover ④ by turning it anti-clockwise and pulling it away from the spout ①.
- Remove the screw conveyor ⑤. It may be necessary to turn it slightly to disengage it from the drive connection.
- Clean the inside surfaces using either a vacuum cleaner or a suitable cloth.

IMPORTANT

Do not use any form of liquid to clean the inside of the CitoDoser. This may result in damage to the Doser.



- Agitator wheel 6
- If necessary, loosen the agitator wheel by pushing it to each side to eject the 'O' ring bearings and then remove it.
 Reassemble the CitoDoser in reverse order.

Reference Guide

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1. Advanced Operations

Connecting a Cooli Cooling Unit (optional)

To connect a Struers recirculation unit to CitoPress:

Note Before connecting the cooling unit to the CitoPress, follow the instructions in the Struers Cooling Units Instruction Manual to prepare it for use.

Note To avoid corrosion, Struers recommends the use of Struers Additive in the cooling water (percentage stated on the Additive container). Remember to top up with Struers Additive each time you refill with water.

Modifying the High Pressure Hose



To connect CitoPress to a Struers Recirculation Cooling Unit, the coupling on one end of the high-pressure hose (supplied with CitoPress) has to be changed to a quick fit coupling.

Note The Cooli Unit is supplied with 2 quick couplings, use the smallest one to modify the high pressure hose.

Cut the high-pressure hose just behind the existing screw fitting ①.

Note Do NOT cut at the other end of the hose ②. This is used to connect to CitoPress

- Place the screw clip ③ onto the hose.
- Insert the quick coupling ④ into the end of the hose.
- Slide the screw clip over the shaft of the quick coupling.
- Tighten the screw clip until the quick coupling is fastened firmly in position.

Connecting to the Cooli Unit

Connecting the Cooli Water Inlet



Connecting the Cooli Water Outlet

Connecting the Control Unit and Mains Power Supply

Connect the Cooli unit to CitoPress as follows:

- Mount the pressure hose onto the water inlet tube on the back of CitoPress.
- Insert the filter gasket in the coupling nut with the flat side against the pressure hose.
- Tighten the coupling nut completely.
- Connect the quick coupling to the Cooli pump outlet ⑤.
- Place the unconnected end of the water outlet tube in the top of the Cooli filter inlet.
- Check that the outlet hose slopes downwards towards the drain along the whole of its length.
- Connect the 24 V / CAN control cable to the Cooli control unit by plugging one end into CitoPress's control socket and the other end into the socket on the rear panel of the control unit.
- Connect the cooling unit to the mains power supply.

IMPORTANT

Before connecting, check that the mains voltage corresponds to the voltage stated on the type plate on the side of the machine.

Using the Methods Database (option)

With the CitoPress database option enabled up to 15 User Methods can be stored as well as associations between a number of resins and CitoDoser units.

Note: Without Database option, only 2 methods can be stored.

Creating and Storing User Methods in the Database Creating a New Method

From the Select Group menu, select User methods, then New method.





Turn knob to highlight the required group



Push knob to activate the SELECT METHOD pop-up. A New method will automatically be created based on the resin in the current process.







- Edit the method's values to create your user method. For information on how to edit a method's values, see "Editing the Method's values manually".
- Save the method to the database. For information on how to save a method, see "Creating and Storing User Methods in the Database".

Modifying a Struers Method

- From the Select Group menu, select a Struers method. For information on how to select a method, see "Selecting a Stored Method".
- Edit the method's values to create your user method, for information on how to edit a method's values, see "Editing the Method's values manually".
- Save the method to the database, for information on how to save a method, see "Creating and Storing User Methods in the Database".

Note:

The Struers method is NOT overwritten when the new method is saved. The method has to be saved using a different name. All Struers methods are protected against being overwritten. Saving a User method



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Turn knob to select SAVE AS.

PROCESS SETTINGS DOSER S	ETTINGS SA	AVE AS	
METHOD		HEATING	
M ClaroFast	E		•
	180 °C	4.0min	350 bar
RESIN / DOSING		COOLING	
RESIN / DOSING	Z		
ClaroFast	E Low	6.5 min	



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Push knob to activate the ENTER METHOD NAME menu.

EN	TER ME	THOD N	AME					
ABCE	EFGH:	I K L M N	10 P	QRS	тилм	XYZ	ÆØÃ	\& # _
abco	lefghi	ijklmn	юр	qrs	tuvw	×уz	æøå	iµ@\
0123	345678	39+-*/		<u>;</u> ;=,	\odot	[] ();" 	!!?x
AAAA	\AÇÐÞ8	EEEEII	II	NOOC	100S	000	υΫΥ	′ŽŒ8
àáââ	íäçðÞè	éééií	ÎÎ	ñòói	ÔŐÖŠ	ùúû	<u>üýÿ</u>)žœf
D -1		oı.						
Der	4 ⊢ −₽	UK						
Meth	od name		Совч	/ of	Claro	Fasi	ŀ	

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> Turn knob to highlight either the functions at the bottom of * the menu or characters to use in the method name. The RAM UP / RAM DOWN keys are used for quick navigation from line to line. For detailed instructions on how to use this menu, see "Using the Enter Name Menu".



(🖵

To accept the name and leave the editor, select OK, and then push the knob. The method will be stored in the User methods group.

Using the Enter Name Menu

Entering Characters

Doser associations, Resins and Method names can also be edited. A cursor is available in the NAME field at the bottom. A second, large cursor is used for selecting characters or actions:



Use RAM DOWN key and the knob to move the large cursor and highlight DEL.

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ENT	ER METHO	DD NAME			
ABCDE abcde 01234 ÀÁÂÃA àáâã3 Del	EFGHIJK ≥fghijk 456789+ ÄÇÐÞÈÉÉ äç3⊧èéé 4⊳	<lmnop < mnop ⊢-#/., ÈËÌÍÎÏ §ëìíîï Øk</lmnop 	QRST qrst :;=(ŇÒÓÔ ñòóô	UVWXY uvwxy () < > [] (ÕÖŠÙÚ õöšùú	ZÆØÅ&# z≈øåµ@\ {}'"!?% OÜÝŸŽŒß ûüýÿžœf</td></tr></tbody></table>

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Press knob to delete the existing name.

ЕН	TER METH	OD NAME			
ABCE abco 0123 ÀÁÂÂ àáââ)EFGHIJ lefghij 3456789 ¼ÄÇÐÞÈÉ íäç≩⊧èé	KLMNOP k Imnop +-*/., ÉËÌÍĨÏ êëìíîï	QRST qrst :;=(ÑÒÓÔ ñòóô	UVWXY; uvwxy;)<>[] ÕÖŠÙÚ(õöšùú(ZÆØÅ&# z∗øåµ@\ ()'"!?%)ÜÝŸŽŒß]Uýÿžœf</th></tr><tr><td>Del Metho</td><td> 4− → od name:</td><td>Ok</td><td></td><td></td><td></td></tr></tbody></table>

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Turn knob and/or use RAM UP/DOWN keys to highlight the character to be used.

PROCESS	SETTINGS	DOSER SET	TINGS	SAVE AS	
EH	TER METH	DD NAME			
ABCI abc 012: ÀÁÂi àáâ:	DEFGHIJ¦ defghij¦ 3456789∙ ăäçðþÈÉ! áäç3⊧èé;	<lmnop < mnop +-*/., ÈËÌÍĨÏ §ëìíîï</lmnop 	QRS1 qrst :;=(ÑÒÓÔ ñòóô	ŪVWXYZ :uvwxyz ()<>[]<)ÕÖŠÙÚÛ ;õöšùúû	ÆØÅ&# ≈øåµ@\ >'"!?% ÜŸŸŽŒß Üýÿžœf</td></tr><tr><td>Del Meth</td><td>d⊢ → od name:</td><td>0k _</td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>

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(-)

Press the knob to enter the character.

Deleting Characters	Charac (left), ⊏ To dele	eters can be deleted from a name by using the Del and ⇒ (right) editing symbols at the bottom of the menu. the characters from a name:
		Turn knob to the left or right until the cursor moves from the character selection area to the editing area at the bottom of the menu.
	Ļ	
		ENTER METHOD NAME
		ABCDEFGHIJKLMNOP QRSTUVWXYZÆØÅ&#_ abcdefghijklmnop qrstuvwxyzæøåµ@\ 0123456789+-#/., :;=○<>[]○''!?% ÀAÂÃĂÇÐÞÈÉÊÈÌÍĨÏ ŇÒÓÕÕÖŠÙÚŰŰÝŸŽŒ? àáâãàç३⊧èééëìíîï ñòóõõöšùúûüýŷžœf
		Del 4– –> Ok
		Method name: Copy of PolyFast
	Ļ	
	Č,	Turn the knob to select the left or right arrow.
	↓	
		Press the knob to move the underline cursor one place to the left or right, respectively.
	Ļ	
		Turn the knob to select the Del symbol.
		ENTER METHOD NAME
		ABCDEFGHIJKLMNOP QRSTUVWXYZÆØÅ&⊭_ abcdefghijklmnop qrstuvwxyzæøåµ@\ 0123456789+-*/., :;=○<>□○'"!?% ÀAÂÃĂÇĐÞÈÉÊÌÍĨÏ ŇÒÓÕÕÖŠÙÚÜÜÝŸŽŒ? àááãäç3⊧èééëìíîï ñòóõõöšùúûUýýžœf
		Del 4– → Ok
		Method name: Copy of PolyFast
	Ļ	



Creating a User Resin

Resin data is stored separately in the database. As well as using Struers resins it is possible to create and store user resins. To create and store a user resin:



In the *PROCESS* menu, turn the knob to highlight the *RESIN / DOSING* item.

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` لـ Push knob to activate the SELECT GROUP menu.





Turn knob to highlight the User resins group.

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Push knob to activate the SELECT USER RESIN menu.

PROCESS	SETTINGS	DOSER SETTINGS	SAVE AS	
	METH	SELECT USE	R RESIN	
M New ក	meth Ne	w resin		
				bar
RESI	3N Z I			
🔊 Multi	iFast			
30) ml 🔚	-	-	
: <u>ال</u>	30mm	PROCESS	30	mm – 2

Turn knob to highlight New resin.



Push the knob to activate the RESIN NAME menu.

RESIN NAME:	
BCDEFGHIJKLMNOP	QRSTUVWXYZÆØA&#_
abcdefghijklmnop	qrstuvwxyzæøåµ@∖
0123456789+-*/	$::= \bigcirc \bigcirc [] \bigcirc ""!?x$
2422acabřŕŕřifî;	Νοόδοσουμουγγγαε
àáâãäç3Þèéêëìíîï	ňòóôőöšùúûüýÿžœf
Del 4⊢ → Ok	
Resin name: New	resin



Edit the resin name using the procedure described earlier for "Using the Enter Name Menu".



Select OK, and push the knob to accept the name and leave the editor.

The resin will be stored in the User resins group.

Note:

Struers resins are linked to a unique method with the name of the resin. These default resins cannot be changed, unless the method is saved under a different name. The lock icon 🖻 below the Struers method name signifies that it cannot be edited.

Using the Settings Menu The SETTINGS menu is used to view and, in the case of User Methods, delete, rename and lock/unlock methods. Viewing Resin Details CitoPress stores details about Struers resins. To view these details: From the PROCESS menu, press the Esc button once to Esc access the top-level menu. T Turn knob to highlight the SETTINGS item. ſ Push knob to activate the SETTINGS menu. î PROCESS SETTINGS DOSER SETTINGS SAVE AS SELECT GROUP Struers methods User methods Struers resin User resin SELECT GROUP ſ Turn knob to highlight Struers resin or User resin. Push knob to open the Resin menu. Turn the knob to highlight the resin Ť






Creating and Deleting CitoDoser Associations

Creating a CitoDoser Dosing Unit Association

A dosing unit is able to store information electronically, which associates it with a specific method stored in the mounting press.

When using a dosing unit for the first time or if the dosing unit's association has been deleted (see, "*Deleting a CitoDoser Dosing Unit Association*") the dosing unit will need to be associated with a method.

A resin is selected and the method that uses this resin will then be associated with the CitoDoser.

Mount the CitoDoser on CitoPress, the Struers resin menu will be displayed.

•	,	

ConduFas	t		
ClaroFast			
PolyFast			
IsoFast			
DuroFast			
MultiFast	Black		



Turn the knob to highlight the resin to be associated with the CitoDoser.

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Push knob to select the resin and its method to be associated with the CitoDoser.



Esc

Press Esc to return to the *PROCESS* menu.

Deleting a CitoDoser Dosing Unit Association To associate the dosing unit with a different method, the existing association must first be deleted.

Esc

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From the *PROCESS* menu, press the Esc button once to access the top-level menu.

PROCESS SETTINGS	DSER SETTINGS SAVE AS	
METHOD	HEATING	
M ClaroFast		
8	180°C 4.0min 350b	ar
RESIN / DOSING	COOLING	
ClaroFast		
100 %	Low 6.5min	



Turn the knob to highlight DOSER SETTINGS.

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PROCESS	SETTINGS	DOSER S	ETTINGS S	AVE AS	
	METHOD			HEATING	
M Clari	oFast		# =	\Box	•
8			180 °C	4.0 min	350 bar
RESI	IN / DOSIN	IG		COOLING	
RESI	IN / DOSIN oFast	IG	F		
RESI Claru 100	IN / DOSIN oFast D %	IG	た Low	соолтыс .5 min	



Push knob to open the DOSER SETTINGS menu.

PROCESS	SETTINGS	DOSER SETTI	NGS SAVE	AS	
DOSE	R / RESIN	NAME			
Cla	aroFast		Presen	t doser!	
Dele	te				
		DOSER SI	ETTINGS		



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The associated resin will be highlighted.

Push knob to highlight the *DELETE* option at the bottom of the menu.

PROCESS	SETTINGS	DOSER SETTINGS	SAVE AS	
DOSE	R / RESIN	NAME		
Dela	roFast		Present doser! ▼	
		DOSER SET	TINGS	



Push knob to delete the resin association.





2. Struers Metalog Guide^m

Struers Metalog Guide offers preparation methods for the most common materials, based on a simple analysis of two key properties: hardness and ductility. Finding the right method, including choice of consumables is easy.

Always consult Struers Metalog Guide on the Struers website for the correct preparation method for the actual specimens.

Struers Metalog Guide™ A complete guide to materialographic specimen preparation. struers.com/KNOWLEDGE/Metalog Guide.

3. Application Guide for Hot Mounting

Useful mounting data and hints can be found in the Struers *Application Guide for Hot Mounting* or visit the Struers website on *http://www.struers.com* and see the section on **Knowledge.**

Tip When using *ClaroFast* in the latest range of Mounting Units (units with a golden casing), increase the Cooling Rate to Medium.

4. Accessories

Please refer to the *CitoPress-10/-20 brochure* for details of the range available.

5. Consumables

Please refer to the *Struers Hot Mounting brochure* for details of the range available.

The use of Struers consumables is recommended. Other products (e.g. coolants) may contain aggressive solvents, which dissolve e.g. rubber seals. The warranty may not cover damaged machine parts (e.g. seals and tubes), where the damage can be directly related to the use of non-Struers consumables.

6. Troubleshooting

Display/Error	Cause	Action
Error Message		
MESSAGE ^{#8} No more space in Database ! <u>+</u> /Yes <u>™</u> /No	There is room for 2 methods in the database. (15 methods when a Database Option is purchased and	To save a new method, delete one of the old ones. (Activate the Database Option)
	activated).	
ERROR #14 Processing error: Pressure is not correct! Esc/Ok	Pressure error with the ram movement. (CitoPress-20: the message will indicate whether the problem occurs with Unit 1 or Unit 2)	Please contact a Struers Service Technician.
WARNING #15 Password string empty ! ESC/ +1/	No digits in the password number being saved.	Press ESC and enter 4 digits for the password number
ERROR ^{#16} Processing error: Temperature is out of limits! <u>Eso</u> /Ok	Temperature error, mounting unit. (CitoPress-20: the message will indicate whether the problem occurs with Unit 1 or Unit 2)	Please contact a Struers Service Technician.
MESSAGE #17 Processing error! No cylinder mounted	START has been pressed and no cylinder has been detected.	Check the cylinder is mounted correctly. If error persists, please contact a Struers Service Technician.
PROCESS PARAMETERS Unit 1 МЕТНОБ: 012345678901234567890 НЕПТНОБ: 0 °C 15.0 min 0 psi COOLING: Medium 15.0 min 0 psi Unit 2 МЕТНОБ: 0123456789 НЕПТНОБ: 0123456789 0123456789 НЕПТНОБ: 0 °C 15.0 min 0 psi COOLING: Medium 15.0 min 0 psi	Process Parameters are displayed when ENTER has been pressed whilst a process is running.	To remove the message press. ENTER again.
WARNING #21	The Dosing button has been	To continue, press ENTER.
Doser unit Method resin does not match! ⊬/Yes ﷺ No	pressed and the resin for the current method does not match the resin name associated with the CitoDoser unit.	Press ESC to abort the process and mount a dosing unit with the correct resin for the method.
		Note: The current Doser resin name is display by using the "DOSER SETTINGS" menu.

Display/Error	Cause	Action
MESSAGE ^{#24} NVRAM FATAL ERROR!	Error NVram fatal error. It is not possible to load, configure data or methods database.	Please contact a Struers Service Technician.
WARNING ^{#25} Doser unit No more space in Database ! <u>E</u> ⊗∕Ok	There is room for 5 Doser resins in the database	To save a new Doser resin in the database, delete one of the old Doser resins in the "DOSER SETTINGS" Menu
ERROR ^{#26} P.O.S.T. Main supply voltage too low!		Turn CitoPress OFF and then turn ON. If this does not help, contact a Struers Service Technician
ERROR #27 P.O.S.T. Main supply voltage too high!		Turn CitoPress OFF and then turn ON. If this does not help, contact a Struers Service Technician
ERROR ^{#28} P.O.S.T. PCB voltage out of range!	Voltage overload	Turn CitoPress OFF and then turn ON. If this does not help, contact a Struers Service Technician
ERROR ^{#29} P.O.S.T. Trafo O¥ERLOAD!		Turn CitoPress OFF, wait for 5 minutes then turn ON. If this does not help, contact a Struers Service Technician
ERROR #30 Processing error: No cooling! Please check connection <u>+</u> /Restart [30] Cancel	Insufficient or no cooling. (CitoPress-20: the message will indicate whether the problem occurs with Unit 1 or Unit 2)	Check cooling water connections. If the error continues to display, contact a Struers Service Technician.
ERROR #3 Doser unit not found! 관/Restart /Cancel	CitoDoser was removed before it is configured.	Replace the CitoDoser and select a resin for the doser.
WARNING * ³⁸ Top closure not tightened!	START has been pressed and the CitoDoser nozzle is positioned over the cylinder.	Remove the CitoDoser nozzle and tighten the top closure.

Display/Error	Cause	Action
Acoustic Signals		
Long beep.	The command cannot be accepted.	Check User's Guide, Section 2.
Four double beeps.	There is an error.	See the error message.
Machine Problems		
Strange symbols appear or a line is missing in the display.	The machine was switched off then switched on again within 5 seconds.	Switch the machine off and wait for 5 seconds before switching on again.
Insufficient compression.	Incorrect setting of force/pressure.	Set the correct parameter. The force should be min. 50 bar/800psi.
	Incorrect configuration of cylinder diameter.	Check the configuration.
	Incorrect unit for force or pressure.	
Insufficient heating.	Incorrect setting of time for preheating or heating.	Set the correct parameter.
	Incorrect temperature unit set.	Check the configuration.
Insufficient cooling.	Incorrect setting for cooling time.	Set the correct parameter.
	Incorrect setting for cooling rate.	
	Incorrect Temperature unit set.	Check the configuration.
	Mains tap supplying cooling water is either closed or not opened sufficiently. Filter at the water inlet is blocked. The water is too hot.	Open the tap. Clean the filter.
	Insufficient water within the Recirculation Cooling Unit. The water is too hot.	Fill to the correct water level. See the section: <i>Maintenance</i> .
	Lime scale deposits built up in the cooling coil.	See the section on <i>Decalcifying</i> <i>the Cooling Coil</i> under Maintenance.
	Defect in the cooling system.	Call a Struers service technician.
Cooling water drips underneath the machine.	The quick coupling is not mounted correctly.	Remove the cover from the mounting unit and check the quick coupling connections.

Display/Error	Cause	Action
The top closure will not start threading on the mounting cylinder.	The top closure is not mounted correctly.	Press the top closure straight down, turning it counter-clockwise until you hear a click. Turn the top closure clockwise.
	The upper ram is too hot.	Let the top closure and the upper ram cool down. Reduce the mounting temperature
	Cured resin in the upper part of mounting cylinder.	Clean the mounting cylinder with a brass wire brush.
	Cured resin on the cylindrical surface of the upper ram.	Clean the ram with the scraper supplied.
	The top closure has been dropped on the floor/table, causing a bulge in the edge of the ram.	Replace the upper ram.
	The swivel arm has become askew.	Call a Struers service technician. In the meantime the mounting press can be used without the swivel arm.
	Damage to the threaded connection in the top closure or to the upper ram.	 Remove the upper ram from the top closure (see instructions in chapter Maintenance). Try both the following procedures to identify the problem: Try to mount the top closure, without the upper ram. If this is not possible, call a Struers service technician. Try to insert the disconnected upper ram into the mounting cylinder. If this is not possible, call a Struers service technician.
The top closure cannot be screwed down completely	Dirt in the threads on the top closure and the mounting cylinder.	Clean the threads. Use only a dry lubricant powder.
	The disc for thermal insulation, placed on the top of the upper ram, has a larger diameter than the upper ram.	Call a Struers service technician.

Display/Error	Cause	Action
The top closure cannot be loosened.		To release the top closure: Move the lower ram up and down several times.
	Cured resin on the cylindrical surface of the top ram.	If this does not help: - Put heating on for 1 min.
	Dirt in the threads in the top closure.	If this does not help:Set the force or pressure to zero.Set the heating time and cooling time to 15 min.
		 Complete a mounting process. If this does not help: Remove the two handles on the top closure. Remove the plastic cover from the top closure (See <i>Maintenance</i>). Loosen the top closure with a fork spanner.
The mount has sharp edges which damage SiC papers.		Replace the lower ram with a <i>Chamfered ram</i> (option).

7. Maintenance

Service Menus

Accessing the Service menus

CitoPress is equipped with operator service menus, which provide important information about the operational history and current operational state of the machine. In addition, they provide a CitoDoser emptying function.

From the MAIN MENU, highlight and then select the Service menu item.

When the Service menu opens, three menu items (Statistics, Sensors and CitoDoser) are available.

SERVICE	
Statistics	
Sensors	
CitoDoser	

To access these menu items, first highlight and then select them.

Statistics Menu

CitoPress measures and records statistical information about its operation, this data is shown in the Statistics display. The following table provides information about this statistical data.

Item	Display
Statistics	
Serial Number	(number)
Software Version	(number)
Database Version	(number)
Bootloader Version	(number)
TOTAL USAGE	
Total operation time	(hours)
Left Hydraulic Motor run time	(hours)
Right Hydraulic Motor run time (option).	(hours)
Left Heating Element run time	(hours) /(sum of all units)
Right Heating Element run time (option).	(hours) /(sum of all units)
Number of ON/OFF operations	(counter)
Number of left cooling operations.	(counter)
Number of right cooling operations (option).	(counter)
CitoDoser number of activations (option).	(counter)

Item	Display	
Statistics SINCE LAST RESET (individual reset of each parameter)		
Total operation time	(hours)	
Operation Time since last service	(hours)	
Left Hydraulic Motor run time	(hours)	
Right Hydraulic Motor run time (option).	(hours)	
Left Heating Element run time	(hours) /(sum of all units)	
Right Heating Element run time (option).	(hours) /(sum of all units)	
Number of ON/OFF operations	(counter)	
Number of left cooling activations	(counter)	
Number of right cooling activations (option).	(counter)	
CitoDoser number of activations (option).	(counter)	

Sensors Menu

CitoPress is equipped with a range of sensors. Real time data, provided by these sensors, is shown in the Sensors display. The following table provides information about this sensor data.

Sensor	Display
PCB VOLTAGES	
Main PCB version	ADC + Volt
+DC	ADC + Volt
+24VDC	ADC + Volt
+12VDC	ADC + Volt
+9.8VDC	ADC + Volt
+3.3VDC	ADC + Volt
-22VDC	ADC + Volt
LCD Contrast	ADC + Volt
Transformer Overload	Yes/No
PCB OUTPUTS	
Recirculation	OK/short circuited
LED left	OK/short circuited
LED right	OK/short circuited
Relay for heating left unit	OK/short circuited
Relay for heating right unit (option).	OK/short circuited
Valve for cooling left unit	OK/short circuited
Valve for cooling right unit (option).	OK/short circuited
Relay for pump selector.	OK/short circuited
Relay for voltage selector.	OK/short circuited
Pump motor in doser (optional).	OK/short circuited
RS232 Service	Connected/not connected

Sensor	Display
Mounting Unit	
Left cylinder size	ADC+ (mm or inch)
Left cylinder temperature	ADC + (°C)
Left Cylinder Oil Pressure	ADC + (bar)
Right cylinder size (option).	(mm or inch)
Right cylinder temperature (option).	ADC + (°C)
Right Cylinder Oil Pressure (option).	(bar)
Hydraulic Pump Current	(ADC + ampere) (mean)
Hydraulic Pump Voltage	(ADC + +DC volt) (mean
MAIN SUPPLY VOLTAG	E
Supply voltage at power on.	ADC + Volt
Current supply voltage.	ADC + Volt
Minimum voltage (200 hours).	ADC + Volt (field displaying 200 hours of operation)
Maximum voltage (200 hours).	ADC + Volt (field displaying 200 hours of operation)
CitoDoser (Option)	
Left position sensor	(ADC-value + active/not active)
Right position sensor	(ADC-value + active/not active)
PCB-ID.	(ADC-value + version x)
RFID number	Number
Motor connection	OK/short circuited

Doser Menu

When the optional CitoDoser is fitted to CitoPress, the *Doser* menu option is used to empty the dosing unit of resin.

DOSER	
Doser resin feed	
Press enter to Start/Stop Doser resin fee	d

8. Technical Data

Subject		Specifications		
		Metric/International	US	
Mounting Specification	IS			
Mounting Units (Optional)	Diameter	25, 30, 40, 50 mm	1¼", 1½"	
Compression	Force on piston rod	50–350 bar in steps of 25 bar	800 – 5000 psi in steps of 200 psi	
Heating	Temperature	80–180°C	176-356°F	
(with pressure on)		in steps of	f 5°C / 9 °F	
	Time	Variable between 1 and 15 min		
Cooling	Time	Variable between 1 and	15 min	
(with pressure on)	Rate	High: Full flow (4.8 l/r	min)	
		Medium: 20% of full flow	(0.96 l/min)	
		Low: 3% of full flow (0.14 l/min)	
Dosing (based on optional CitoDoser)		20-150%		
Physical Specifications	5			
Water Supply	Tap Water			
	Pressure for tap water	1 - 6 bar	14.5 - 87 psi	
	Inlet	Ø ¾"	Ø ¾"	
Electrical Supply and	Voltage/frequency	200-240V / 50-60Hz	100-120V / 50-60Hz,	
consumption	InletØ ¾"Supply and onVoltage/frequency200-240V / 50-60HzPower phases1-phase (N+L1+PE	1-phase (N+L1+PE) or 2	2-phase (L1+L2+PE)	
	Power consumption			
	Idle	8W		
	Max (CitoPress-10) Max (CitoPress-20)	1300W@200-240V 2300W@200-240V	1300W@100-120V 1300W@100-120V	
	Current (CitoPress-10)	5.6A@200-240V	13A@100–120V	
	Current (CitoPress-20)	10A@200–240V	13A@100–120V	
Dimensions and	Width (CitoPress-10)	480 mm	19"	
vveight	Width (CitoPress-20)	550 mm	21.5"	
	Depth	560 mm	22"	
	Height (Mounting Unit and Top Closure installed)	450 mm	17.7"	
	Height (Including CitoDoser)	550 mm	21.5"	
	Weight (CitoPress-10)	34 kg	75 lbs	
	Weight (CitoPress-20)	48kg	106 lbs	
	Weight (CitoDoser)	3.1kg	7 lbs	

Subject		Specifications	
		Metric/International	US
Standards Specifications			
Safety Standards		Please refer to the Decla	aration of Conformity
Environmental Specifications			
Noise levels	Idle	0 dB (A) 63 dB(A)	
	Max		
Operating Environment	Temperature (operational)	5–40°C	41–104°F
	Humidity (non- condensing)	0–95	% RH
Interface Specifications			
Controls		Touch pad, turn/push-knob	
LCD display with white LED backlight		320x240 dots	

Quick Reference

Placing the Specimen	 Press and hold RAM UP A to raise the lower ram to its upper limit. Apply "Mould Release Agent" to the surface of the lower ram. Place the specimen on the ram.
Switching between LEFT and RIGHT CYLINDER	If necessary, press toggle unit button ((1→2)) to switch between the two cylinders.
Automatic Dosing (CitoDoser)	 Press and hold the RAM DOWN V key for a few seconds to lower the ram to its lowest limit. Swivel the Dosing Unit's outlet spout over the mounting unit Press the dosing key The dosing unit will automatically dispense the appropriate amount of resin for the selected method.
Manual Dosing	 Press and hold the RAM DOWN v key for a few seconds to lower the ram to its lowest limit. Fill a suitable amount of resin into the cylinder through the funnel.
Installing the Top Closure	 Remove resin dust from the upper part of the mounting cylinder. Clean the cylindrical surface of the upper ram. Cured resin can easily be removed without damage to the surface of the ram using the scraper supplied. Apply "Mould Release Agent" to all accessible surfaces of the upper ram. Place the top closure with the upper ram on the mounting cylinder. Press the top closure straight down; turn it clockwise until it is tight.
Selecting a Method	 Select a stored mounting method from the database. From the Process Setup menu, if necessary, turn knob to highlight the METHOD item. Push the knob to select it In the pop-up that opens, turn the knob to highlight the method group you want to use. Push the knob to select it. Turn the knob to highlight the method you want to use. Push the knob to select it. The display will return to the Processing setup menu. The values for the selected method will be displayed.

Starting the Mounting Process	<i>Note:</i> If a method is associated with a dosing unit, placing the unit on CitoPress selects this method automatically.	
	 ■ Either select a method, or change the appropriate parameters. ■ Press START Φ, and the process will run automatically. 	
Stopping the Mounting Process	The machine automatically stops when the cooling time has elapsed.	
Removing the Top Closure	 Turn the top closure counter-clockwise until released from the threads. Press RAM UP to raise the lower ram to its upper limit. Turn the top closure to one side to give access to the specimen. 	

Declaration of Conformity /// Struers English Manufacturer, Struers A/S responsible for Pederstrupvej 84 **Technical File** DK-2750 Ballerup, Denmark Telephone +45 44 600 800 Herewith declares that CitoPress-1/-10/-20 with CitoDoser Product Name: Type No: 573/ 574/ 577/ 578/ 579 Machine Type: Hot Mounting Presses with Resin Doser is in conformity with the provisions of the following directives: **Safety of Machinery** 2006/42/EC according to the following standard(s): EN ISO 12100:2011, EN ISO 13849-1:2008/AC:2009, EN ISO 13849-2:2014, EN 60204-1:2006/AC:2010. **EMC-Directive** 2004/108/EC according to the following standard(s): EN 61000-6-2:2005, EN 61000-6-4:2007/A1:2011, EN 61000-3-2:2014, EN 61000-3-3:2013, EN 61326-1:2013. RoHS 2011/65/EU according to the following standard(s): EN 50581:2012. Supplementary The equipment also complies with the following standards: Information NFPA70:2014, NFPA79:2012 FCC 47 CFR Part 15, ICES-003 The above has been declared according to the global method, module A Christian Skjold Heyde, Date: 11.03.2015 Vice President, R & D and Production, Struers A/S

Dansk	Overensstemmelseserklæring		// Struers
Fabrikant, ansvarlig for Teknisk Dossier	Struers A/S Pederstrupvej 84 DK-2750 Ballerup, Danma Telefon 44 600 800	ark	
erklærer herved, at	Produktnavn:CType nr.:5Maskintype:V	CitoPress-1/-10/-20 med CitoDoser 673+574+577+578+579 /armindstøbningspresser med resindoser	
er i overensstemmelse me	ed følgende EU-direktiver:		
Maskindirektivet	2006/42/EF efter følgende EN ISO 12100:2011, EN I EN 60204-1:2006/AC:201	e standard(er): SO 13849-1:2008/AC:2009, EN ISO 13849-2: 0.	2014,
EMC-direktivet	2004/108/EF efter følgend EN 61000-6-2:2005, EN 6 EN 61326-1:2013.	le standard(er): 1000-6-4:2007/A1:2011, EN 61000-3-2:2014,	EN 61000-3-3:2013,
RoHS	2011/65/EU efter følgende EN 50581:2012.	e norm(er):	
Supplerende oplysninger	Endvidere overholdes følg NFPA70:2014, NFPA79:2	gende standard(er): 012, FCC 47 CFR Part 15, ICES-003.	
Ovenstående overensstemmelse(r) er erklæret iflg. den globale metode, modul A			
		1. Keyp	
	Dato: 11.03.2015	Christian Skiefd Heyde, Vice President, Udvikling og Produktion, Struers	A/S



Pederstrupvej 84 DK-2750 Ballerup Denmark

CitoPress-1/ -10/ -20 // Struers

Spare Parts and Diagrams

Manual No.: 15737001 Date of Release FH€Í .20FÍ Á



CitoPress-1/-10/-20 Spare Parts and Diagrams

Always state *Serial No* and *Voltage/frequency* if you have technical questions or when ordering spare parts.

The following restrictions should be observed, as violation of the restrictions may cause cancellation of Struers legal obligations:

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Struers A/S Pederstrupvej 84 DK-2750 Ballerup Denmark Telephone +45 44 600 800 Fax +45 44 600 801

Spare Parts and Diagrams

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Hydraulic components f. tower	.15730064A
Left tower, assembled	. 15730020Ü
Right tower, assembled	.15740022P
Frontplate, assembled	.15740015H

CitoPress-1

Diagrams	
Block Diagram	15773050B
Wiring Diagram	

CitoPress-10

Diagrams	
Block Diagram	15733050B
Wiring Diagram	15733100E

CitoPress-20

Diagrams	
Block Diagram	
Wiring Diagram	

Some of the drawings may contain position numbers not used in connection with this manual.

Spare Part list for CitoPress-1/ -10/ -20

Drawing	Pos.		Cat no.
15740001		CitoPress-20, complete	
	220	Seals for towers, 0.66m	15730142
15740065		Electronics, assembled	
	20	Power supply 85-264in. 24V/1A	2PA90025
	130	Trafo 115-230V/36V, 20A, 20%	2MT72324
	150	6.30A T FUSE GLASS 250V, 2 pcs, F1 + F2	2FU14300
	160	15AT FUSE CERAMIC 250V1 pcs F3	2FU17500
15730062		Pump unit, assembled	
	10	Hydr. Pump 36Vdc,1.4liter/min	2YP70108
	20	Male stud connector 1/8" M14	2NH01018
	30	T-swivel w. nut run M14	2NH01014
	40	Swivel conn.w.nut run ½" M14	2NH01024
	50	Swivel conn.w.nut run 1/4" M14	2NH01020
15730063		Hydraulic components f. bottom	
	1000	Accumulator ADE 1/2" 0,07L 8bar	2YA00725
	10	Throttle valve ø4	2YI01004
	20	Silencer ø4	2YL10014
	30	Press.trans. 250bar 0.5-4.5V	2HP12250
	40	Quick coupling M10 ø4	2NF11004
	50	Hydraulic hose, 200mm	2NU90891
15730064		Hydraulic components f. tower	
	2000	Male stud connector 1/8" M14	2NH01018
	2010	Hydr.hose 1/8straight 90°elbow	2NU90890
15730020		Left tower, assembled	
	20	Hydraulic cylinder SL81	15730122
	70	Base elevator, assembled	15730035
15740022		Right tower, assembled	
	160	Light panel, 2 pcs (only CitoPress-10/-20)	15740030

Spare Part list for CitoPress-1/ -10/ -20

Pos.		Cat no.
	Frontplate, assembled	
10	Foil, CitoPress-20	15740111
10	Foil, CitoPress-10	15730143
10	Foil, CitoPress-1	15770111
40	Display, 320X240 w. white LED	2HD32024
80	PCB CitoPress, tested	15733001
110	Optical encoder 24p	2HR12411

Accessories

Mains Cable, 0.75mm ² , Schuko	2WC04668
Mains Cable, AWG16, Nema 5-15P	2WC02520
Left elevator, assembled	15730040
Water hose	2NU93020
Right elevator, assembled	15740040
Hot Mounting Guide	62020000
Measuring spoon 20 ml	50300094
Mains Cable, AWG18, Nema 6-15P	2WC09003

Drawing 15740015







POS. NO.	AMOUNT [DRAW. NO.		MANU	IFACTURER	TYPE No	NOTE		
10	11	15/30136 PL	ate tor electronics			D005.04			
20	12	2PA90025 P	ower supply 85-264in. 24V_1	<u>A Mean</u>	well	RS25-24			
30	22	21R50304 M	IC Skrue M3x4						
40	32	2KL46682 Re	elay 20A 2sk 24VDC fast on	Finder		Serie 66 66.82	2		
50	11	15/30208 Br	racket for power supply						
60	22	2KL82420 Sc	<u>plid state relay 20A AC 12VE</u>	C Celdu	IC	SCF-42324L			
70	10 2	2XL01331Te	rminal block,4-conductor	Wago)	261-331			
80	4 2	2XL01301 Te	erminal block,2-conductor	Wago)	261-301			
90	22	2XL01307 Te	erminal block 2-cond. yegn	Wago)	261-307			
100	32	2XL11361 Er	nd plate w.fixing fl. 261-361	Wago)	261-361			
110	22	2XL31402 JL	JMPER BAR, 2-WAY COMB-T	YPE Wago)	261-402			
120	62	2TR50306 M	C Skrue M3x6 A2						
130	12	2MT72324 Tr	rafo 115-230V-36V 20A 20%	Ulvec	0	AA-72324			
140	12	2ZA20006 Sł	kive 6 DIN 9021 A2						
150	12	2TR50680 M	IC skrue M6x80 A2						
160	82	2ZI40405 SKI	IVE M.UDV. FORTANDING 4	A4					
170	16 2	2TR50406 M	C skrue M4x6 A2						
180	2 2	2ZA10004 Sk	kive 4 DIN 125 A A2						
190	2 2	2ZA10003 Sk	kive 3 DIN 125 A A2						
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E	POS. NO. AMOUNT DRAW. NO. NOTE 10 1 2YP70109 Hydr. Pump 36Vdc,1.1liter_min 0 20 2 2NH01018 Male stud connector 1-8 M14 0 30 2 2NH01014 T-swivel w. nut run M14 0 40 1 2NH01024 Swivel conn. w.nut run 1-2 M14 0 50 1 2NH01020 Swivel conn. w. nut run 1-4 M14 0
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