

CitoDoser

Instruction Manual



Table of Contents	Page
Intended use	3
Safety Precautions	5
User's Guide	8
Reference Guide	22
Contents of the Declaration of Conformity	25

Intended use

For professional materialographic hot mounting of materials for further materialographic inspection and only to be operated by skilled/trained personnel. The machine is only designed to be used with Struers CitoPress-15 and CitoPress-30. The machine is only designed to be used with Struers consumables specially designed for this purpose and this type of machine.

The machine is for use in a professional working environment (e.g. a materialographic laboratory)

Do not use the machine for:

Hot mounting of material other than solid materials suitable for materialographic studies. The machine must not be used for any type of explosive and/or flammable material, or materials which are not stable during heating or pressure.

Models:

CitoDoser
CitoDoser Base Unit

**NOTE:**

READ the instruction manual carefully before use.
Keep a copy of the manual in an easy-to-access place for future reference.

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 obligations:
Instruction Manuals: Struers Instruction Manual may only be used in connection with Struers equipment covered by the Instruction Manual.

Struers assumes no responsibility for errors in the manual text/illustrations. The information in this manual is subject to changes without notice. The manual may mention accessories or parts not included in the present version of the equipment.

The contents of this manual are the property of Struers. Reproduction of any part of this manual without the written permission of Struers is not allowed.

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CitoDoser **Safety Precautions¹**

Read carefully before use

1. Ignoring this information and mishandling of the equipment can lead to severe bodily injuries and material damage.
2. The machine must be installed in compliance with local safety regulations. All functions on the machine and any connected equipment must be in working order.
3. The operator(s) must read the Safety and User's Guide sections of this manual and the CitoPress manual. The operator(s) must read the Instructions for Use and, where applicable, Safety Data Sheets for the applied consumables.
4. This machine is to be operated and maintained by skilled/trained personnel only.
5. The machine must be placed on a CitoPress Hot Mounting Press.
6. Remove CitoDoser from CitoPress prior to any service.
7. In case of fire, alert bystanders, the fire brigade and cut power on CitoPress. Use a powder fire extinguisher. Do not use water.

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

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.).

¹ From Safety Precaution Sheet, Revision A.

Icons and typography

Struers uses the following icons and typographical conventions. A list of the Safety Messages used in this manual can be found in the chapter on [Cautionary Statements](#).

Always consult the Instruction Manual for information on the potential hazards marked by the icons fixed to the machine.

Icons and Safety Messages



ELECTRICAL HAZARD

indicates an electrical hazard which, if not avoided, will result in death or serious injury.



DANGER

indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.



WARNING

indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.



CAUTION

indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.



CAUTION

indicates a hazard involving hot surface or liquid, with a low level of risk which, if not avoided, could result in minor or moderate injury.



CRUSHING HAZARD

indicates a crushing hazard which, if not avoided, could result in minor, moderate or serious injury.

General Messages



NOTE

indicates a risk of damage to property, or the need to proceed with special care.



HINT

indicates additional information and tips.

Colour Inside Logo



The 'colour inside' logo on the cover page of this Instruction Manual indicates that it contains colours which are considered to be useful for the correct understanding of its contents.

Users should therefore print this document using a colour printer.

Typographic conventions

Bold type	indicates button labels or menu options in software programs
<i>Italic type</i>	indicates product names, items in software programs or figure titles
<u>Blue text</u>	indicates a link to another section or webpage
■ Bullets	indicates a necessary work step

User's Guide

Table of Contents	Page
1. Getting Started	
Device Description.....	9
Checking the Contents of Packing.....	9
Unpacking CitoDoser.....	10
Installing the CitoDoser Unit's Base Plate.....	10
Installing the CitoDoser Dosing Unit.....	11
Supplying Power.....	12
2. Operation	
Pouring Resin over the Specimen using the Dosing Unit.....	13
3. Maintenance	
Daily Inspection.....	14
Daily Maintenance.....	14
Removing Residues.....	14
Emptying the CitoDoser Dosing Unit.....	15
Cleaning the CitoDoser Dosing Unit.....	17
Spare Parts.....	18
4. Cautionary Statements	
List of Safety Messages in the Manual.....	19
5. Transport and Storage.....	20
6. Disposal.....	21

1. Getting Started

Device Description

CitoDoser is an automatic resin doser used with Struers CitoPress-15 and CitoPress-30.

CitoDoser automatically doses the correct amount of resin, depending on the cylinder size and the method chosen.

Resin dosing is simplified and the formation of airborne dust is reduced.

CitoDoser consists of 1 base unit, mounted on the CitoPress machine and a CitoDoser dosing unit. Multiple dosing units can be acquired to contain the different types of resin used.

CitoDoser can only be used with Struers CitoPress-15 or CitoPress-30.

Checking the Contents of Packing

CitoDoser

The packing box contains the following items:

- 1 CitoDoser
- 1 Instruction Manual Set

CitoDoser Base Unit

- 1 CitoDoser Base Unit

Unpacking CitoDoser



NOTE

Store the packing box and foam blocks for future use. Failure to use the original packaging and fittings could cause severe damage to the machine and will void the warranty.

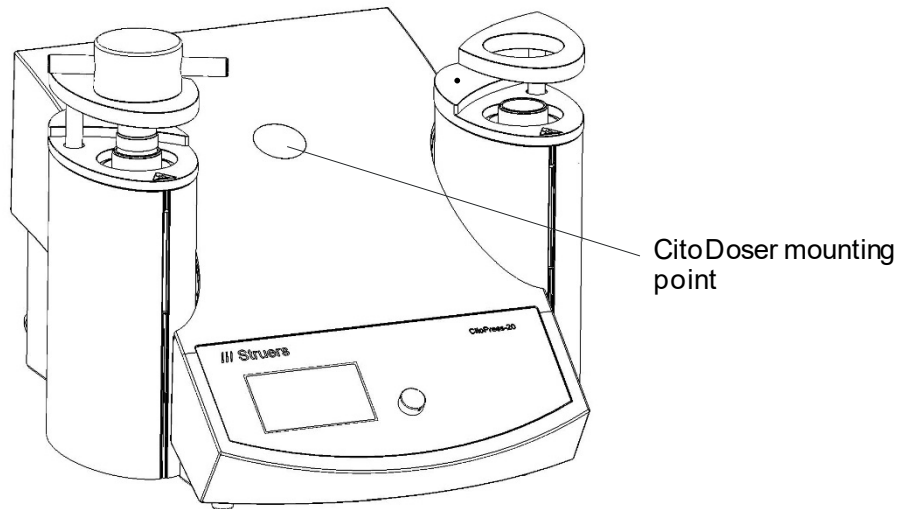
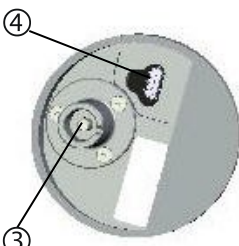
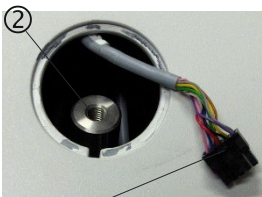
Installing the CitoDoser Unit's Base Plate



ELECTRICAL HAZARD

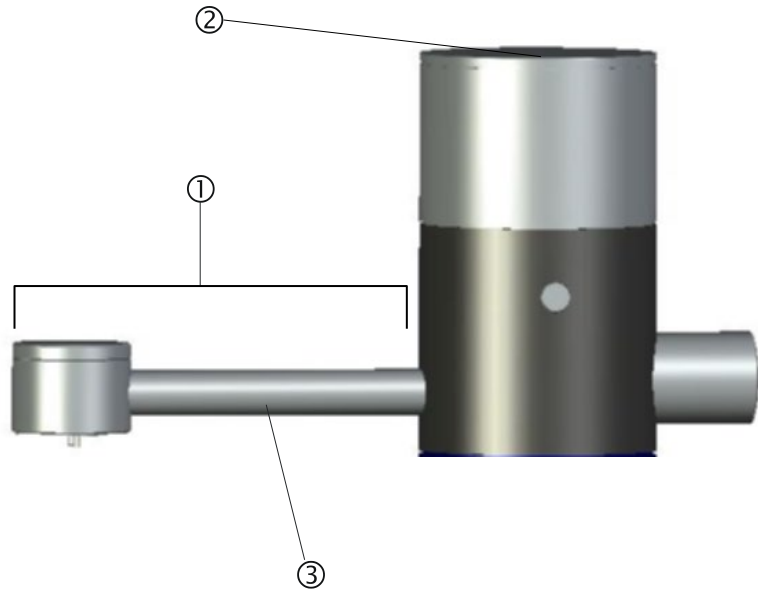
- Disconnect the CitoPress from the mains electricity while installing the dosing unit.
- Installation of CitoDoser must be carried out by skilled or instructed persons.

- Using a screwdriver or similar tool, carefully remove the plastic cap, which covers the CitoDoser mounting point.



- Carefully cut the cable tie fixing the cable to the shaft ② inside the mounting hole.
- 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](#)”.

Supplying Power

Power is supplied from the CitoPress machine.

2. Operation

Pouring Resin over the Specimen using the Dosing Unit

- 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 .

**NOTE**

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.

Please refer to the CitoPress Instruction Manual for information on operation of CitoPress.

3. Maintenance

Proper maintenance is required to achieve the maximum uptime and operating lifetime of the machine. Maintenance is also important in ensuring your machine's continued safe operation. The maintenance procedures described in this section must be carried out by skilled or instructed persons.

Daily Inspection

The machine must be checked before use. Do not use the machine until any damage is repaired.

Daily Maintenance

Removing Residues

- Clean all accessible surfaces with a soft, damp cloth.

**HINT**

Do not use a dry cloth as the surfaces are not scratch resistant. Grease and oil can be removed with ethanol or isopropanol.


**NOTE**

Never use acetone, benzol or similar solvents.

Emptying the CitoDoser Dosing Unit

When the optional CitoDoser is fitted to CitoPress, the CitoDoser Service menu option is used when emptying the dosing unit of resin.

From the Service menu,

 Turn knob to highlight *CitoDoser*.




 Push knob to enter the *CitoDoser* menu.

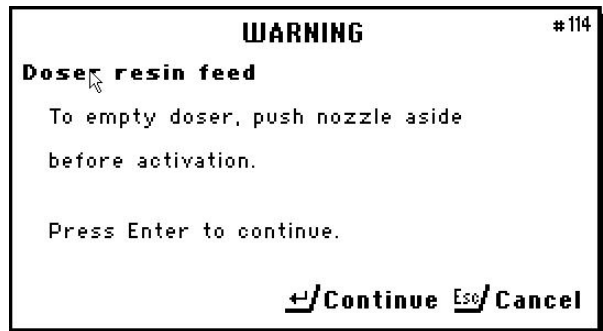


 Turn knob to highlight *Doser resin feed*.



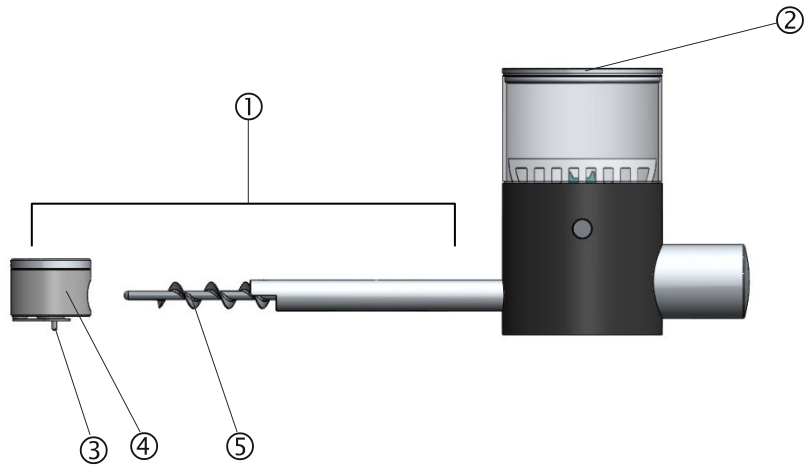
 Push knob to Start/Stop the Doser resin feed. The following warning will be displayed.





Ensure that the nozzle is in a suitable position.
Push knob to start emptying the CitoDoser.

Cleaning the CitoDoser Dosing Unit



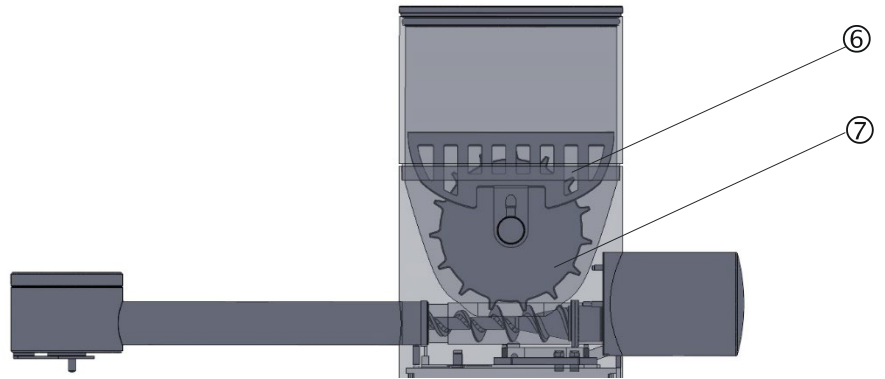
- ① Spout
- ② Lid
- ③ Nozzle
- ④ Nozzle cover
- ⑤ Screw conveyor

- 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.



NOTE

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



- ⑥ Protective grid
- ⑦ Agitator wheel

- 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.



WARNING

Check that the protective grid in CitoDoser is intact and that it is not possible to come into contact with the agitator wheel whilst rotating.

Spare Parts

For further information, or to check the availability of replacement parts, please contact your local Struers Service department. Contact information is available on Struers.com.

4. Cautionary Statements

List of Safety Messages in the Manual



ELECTRICAL HAZARD

- Disconnect the CitoPress from the mains electricity while installing the dosing unit.
- Installation of CitoDoser must be carried out by skilled or instructed persons.



WARNING

Check that the protective grid in CitoDoser is intact and that it is not possible to come into contact with the agitator wheel whilst rotating.



ELECTRICAL HAZARD

Disconnect CitoPress from the mains electricity and water supply before removing CitoDoser.

5. Transport and Storage



NOTE:

Package the machine securely before transportation. Insufficient packaging could cause damage to the machine and will void the warranty. Contact Struers Service for advice. Struers recommends that all original packaging and fittings are kept for future use.



ELECTRICAL HAZARD

Disconnect CitoPress from the mains electricity and water supply before removing CitoDoser.


- CitoDoser base unit can be transported whilst installed on CitoPress.
- Clean and dry CitoDoser before transportation and storage.

If the machine is bound for long-time storage or shipping, follow these additional steps:

- Wrap the CitoDoser and base unit in plastic sheet (or bag), together with a desiccant (silica gel).
- Tape the plastic sheet (or bag) closed to keep the CitoDoser and base unit dry.
- Pack in a cardboard box.

6. Disposal



Equipment marked with a WEEE symbol  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.

Reference Guide

Table of Contents	Page
1. Technical Data	
With CitoPress-15/-30	23

1. Technical Data

With CitoPress-15/-30

Subject		Specifications	
		Metric/International	US
Mounting Specifications			
Mounting Units (Optional)	Diameter	25, 30, 40, 50 mm	1¼", 1½"
Compression	Force on piston rod	50–350* bar in steps of 25 bar	725 - 5076* psi in steps of 363 psi
		 NOTE When using 50 mm cylinder diameter, the max pressure is limited to 250 bar / 3,625 psi.	
Heating (with pressure on)	Temperature	120 / 150 / 180°C	248 / 302 / 356°F
	Time	Variable between 1 and 15 min	
Cooling (with pressure on)	Time	Variable between 1 and 15 min	
	Rate	High:	Full flow (4.8 l/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			
Water Supply	Tap Water		
	Pressure for tap water	1 - 6 bar	14.5 - 87 psi
	Inlet	¾" dia.	¾" dia.
	Outlet	10 mm dia.	0.4"
Electrical Supply and consumption	Voltage/frequency	200-240V / 50-60Hz	100-120V / 50-60Hz,
	Power phases	1-phase (N+L1+PE) or 2-phase (L1+L2+PE)	
	Power consumption:	@200-240V / 50-60Hz	@100-120V / 50-60Hz,
	Idle	8W	8W
	Max (CitoPress-15)	1300W	1300W
	Max (CitoPress-30)	2300W	1300W
	Current (CitoPress-15)	5.6A	13A
	Current (CitoPress-30)	10A	13A
<i>Residual Current Circuit Breaker</i>	Type A, 30 mA (or better) is required		

CitoDoser
Instruction Manual

Subject		Specifications	
		Metric/International	US
Dimensions and Weight	Width (CitoPress-15)	480 mm	19"
	Width (CitoPress-30)	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-15)	34 kg	75 lbs
	Weight (CitoPress-30)	48 kg	106 lbs
	Weight (CitoDoser)	3.1 kg	7 lbs
Standards Specifications			
Safety Standards	Please refer to the Declaration of Conformity		
Environmental Specifications			
Noise levels ²	Idle	0 dB (A)	
	A-weighted sound emission pressure level at workstations	LpA = 61.5 dB(A) (measured value) K = 4 dB(A) Measurements made in accordance with EN ISO 11202.	
Operating Environment	Temperature (operational)	5–40°C	41-104°F
	Humidity	<85 % RH non-condensing	
Storage Conditions	Temperature	-25 – 55°C	-13 – 131°F
	Humidity	<95 % RH (non-condensing)	
Interface Specifications			
Controls	Touch pad, turn/push-knob		
LCD display with white LED backlight	5.2"		

² Noise level: The figures quoted are emission levels and are not necessarily safe working levels. While there is a correlation between the emission and exposure levels, this cannot be used reliably to determine whether or not further precautions are required. Factors that influence the actual level of exposure of the workforce include characteristics of the work room, the other sources of noise, etc., i.e. the number of machines and other adjacent processes. Also, the permissible exposure level can vary from country to country. This information, however, will enable the user of the machine to make a better evaluation of the hazard and risk.

Declaration of Incorporation of Partly Completed Machinery

Manufacturer	Struers ApS • Pederstrupvej 84 • DK-2750 Ballerup • Denmark
Name	CitoDoser, CitoDoser Base
Model	N/A
Function	Automatic resin dosing
Type	579
Cat. no.	05796101, 05796102
The above listed machinery is only intended to be used with:	CitoPress-15, CitoPress-30

And shall not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with this regulation, where appropriate.

Serial no.



Module H, according to global approach



We declare that the product mentioned is in conformity with the following legislation, directives and standards:

2006/42/EC	EN ISO 12100:2010, EN 60204-1:2018, EN 60204-1-2018/Corr.:2020
2011/65/EU	EN 63000:2018
2014/30/EU	
2014/53/EU	
Additional standards	NFPA 79, FCC 47 CFR Part 15 Subpart B

Authorized to compile technical file/
Authorized signatory

Date: [Release date]



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