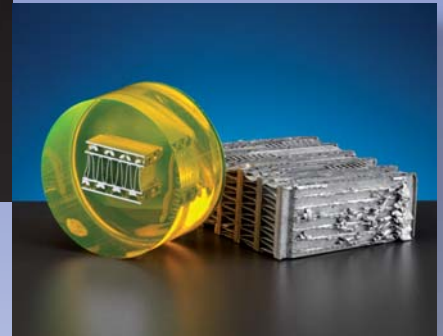


CitoVac



Vacuum impregnation unit, especially designed for impregnation of porous materials



CitoVac gives you superior impregnation, carried out quickly and efficiently. Perfect for porous materials, such as specimens for failure analysis with cracks, porous casts and composites, electronic components, rocks minerals, ceramics and spray coatings.

CitoVac is extremely user-friendly, and is equipped with a spacious vacuum chamber.

Easy handling

- Handy inlet tube for trouble-free filling of the mounting cups, and no spilling
- Easy-to-read display and touch pad keys for user-friendly operation
- Transparent lid for a clear view during impregnation
- Disposable consumables for optimal safety and less cleaning

Room for many and/or large specimens

- Spacious vacuum chamber
- Practical mounting cup holder with room for up to 8 mounting cups (accessory)

CitoVac

Fast and easy impregnating with
Struers mounting cup holder



Impregnation

Perfect impregnation of porous specimens requires that there is no air in the pores and cracks of the specimens when the impregnation material is applied. The only way to obtain this is to impregnate under vacuum. CitoVac ensures perfect impregnation of your specimens.

CitoVac is equipped with a large vacuum chamber and a user-friendly operational panel. The impregnation material (e.g. Struers EpoFix) is supplied through a disposable tube, and is quickly and efficiently distributed, without messy spilling, to the individual mounting cups.

CitoVac features

Handy inlet tube

CitoVac is designed for trouble-free filling of the mounting cups, and is operated without spilling of impregnation material in the vacuum chamber or outside on the cabinet. This is achieved by manually rotating the mounting cups on the turntable to the fixed inlet tube. The valve controlling the flow of the impregnation material is also easy to handle.

User-friendly operation

CitoVac is operated with a few touch pad keys. The display presents both set values and present vacuum and time. Display and touch pad are placed behind the chamber to secure that they will not be soiled with mounting material.

A clear view during impregnation

The transparent lid allows a clear view when filling the mounting cups in the vacuum chamber. Therefore the amount of impregnation material per cup can be controlled, which results in less waste of impregnation material.

Optimal safety and less cleaning

All consumables which have contact with the mounting material are disposable. This ensures the optimal safety for the user and reduces cleaning to a minimum.



Easy filling of mounting cups.

A large vacuum chamber

With CitoVac many specimens can be impregnated at the same time. Using 30 mm / 1¼" dia. moulds 10 specimens can be mounted, using 40 mm / 1½" dia. moulds, 8 specimens can be mounted at the same time.

In addition, the large vacuum chamber allows also impregnating large specimens under vacuum. Thus, CitoVac can use a 200 mm / 8" dia. mounting cup to impregnate large samples.

Practical mounting cup holder

To make it fast and easy to handle many specimens, we have designed a mounting cup holder. The holder can be used with Struers mounting cups ≤ 30 mm / 1¼" dia. (UnoForm) only, as the cups hang on their little 'wings'.



CitoVac with disposable dispensing tube for optimal safety and time-saving.



CitoVac with Struers impregnation material (EpoFix).



User-friendly operation.



Spacious vacuum chamber for large specimens.

Efficient impregnation

An efficient impregnation depends on several conditions:

1. Open pores

Only pores, cracks etc. which are open can be filled with impregnation material. After the finished preparation, closed pores can be differentiated in the microscope from pores that are filled with impregnation material, due to the different reflection of the light. The contrast of the impregnation material in the pores can be further enhanced by using EpoDye, a fluorescent dye (see specimen impregnated with EpoFix and EpoDye above).

2. Vacuum

The specimen is evacuated to the lowest possible pressure. During the impregnation itself the pressure is then adjusted so the impregnation material does not start to foam inside the vacuum chamber (100-150 millibar).

3. The viscosity of the impregnation material

The best impregnation is obtained with the most fluid material. With e.g. EpoFix the lowest viscosity is obtained at 30 - 40°C. The best result is achieved by using the impregnation material immediately after mixing, before the viscosity of the material starts to increase due to the polymerization.

4. A clean specimen

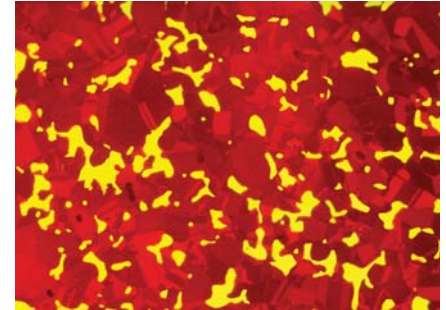
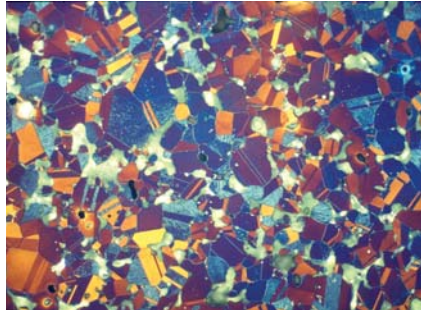
Grinding dust prevents the impregnation material from thoroughly penetrating the specimen. The specimen is best cleaned in an ultrasonic cleaner. Afterwards, it is rinsed with ethanol and dried thoroughly in order to make the impregnation agent adhere better to the surface.

5. Time

The smaller the specimen, the shorter the evacuation time to ensure that all air is removed from the voids and cracks. Depending on number and size of the specimens, the vacuum time can vary from a few minutes to 20 minutes or more.



Steel components mounted with EpoFix and EpoDye



Left: Bright field, 200x. Right: Long pass blue/short pass orange filter, 200x
Material: Powder Metallurgy, stainless steel with 10% volume Cr_3C_2

Specimen impregnated with EpoFix and EpoDye, using CitoVac. The micrograph to the right shows the specimen material in reddish colours and the voids filled with the mounting material in yellow. This impregnation technique, combined with the proper filters in the optical microscope, makes it easy to evaluate voids and/or cracks present within a specimen.

Consumables

CitoVac is designed for optimal use with a disposable dispensing tube. In the CitoVac Consumable Kit 100 pcs. of disposable dispensing tubes and one clip to hold the tube are included.

For easy maintenance of the vacuum chamber, a disposable chamber protector to shield the chamber against the impregnation material will be available in the Consumable Kit.

e-Training

CitoVac is available with Struers e-Training. Practical help right when you need it is waiting at the Struers e-Training site. View videos with clear explanations demonstrating unpacking, installation and operation of CitoVac. Brush up your knowledge or introduce new employees to CitoVac whenever convenient. Please contact your local representative for more information.



www.struers.com/e-Training



Electronic components mounted with EpoFix and EpoDye.



Struers A/S
Pederstrupvej 84
DK-2750 Ballerup, Denmark
Phone +45 44 600 800
Fax +45 44 600 801
struers@struers.dk



Technical data

Dimensions:

Height: 190 mm / 7.5"
Width: 380 mm / 15"
Depth: 370 mm / 14.5"
Weight: 9.5 kg / 21 lbs.

Specifications

CitoVac with built-in vacuum ejector

Vacuum impregnation unit. Compressed air supply 4.5 - 6 bar required. 1 x 100-240 V / 50-60 Hz.
Code: VACWI
Cat. no: 05926119

CitoVac for external pump

Vacuum impregnation unit. External vacuum pump required. 1 x 100-240 V / 50-60 Hz.
Code: VACUT
Cat. no: 05926219

Mounting Cup Holder for UnoForm ≤ 30 mm / 1¼" dia.

For easy handling of mounting cups. Holder for 8 Struers UnoForm 25 mm / 30 mm / 1¼".
Code: VACFU
Cat. no: 05926903

Consumable Kit for CitoVac

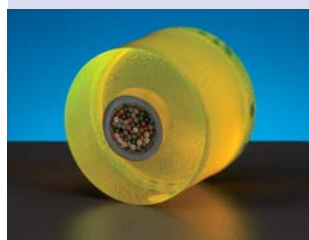
Disposable consumables for CitoVac. 100 dispensing tubes, one chamber protector and one clip for dispensing tube.
Code: VACKI
Cat. no: 40300080

e-Training module, CitoVac

Online CitoVac training module illustrating unpacking, installation and operation. Subscription is valid for one year for up to three named users. Please state user names and e-mail addresses upon ordering.
Code: ETRAI
Cat. no: 86210400

EpoDye

Fluorescent dye to use in microscopy to make cracks and pores visible. For use with Specifix, EpoFix, ClaroCit and ViaFix. Special filters for microscope required.
Code: EPOLU
Cat. no: 40300002



Cable mounted with EpoFix and EpoDye.

EpoFix kit

Epoxy cold mounting system curing at room temperature in about 8 hours, with no shrinkage, especially suited for vacuum impregnation. Transparent.
Code: EPOFI
Cat. no: 40200029

EpoFix resin. 1 l

For EpoFix epoxy cold mounting system. 1 l EpoFix Resin corresponds to 130 ml EpoFix Hardener.
Code: EPOES
Cat. no: 40200030

EpoFix hardener. 500 ml

For EpoFix epoxy cold mounting system. 500 ml EpoFix Hardener corresponds to 4 l EpoFix Resin.
Code: EPOAR
Cat. no: 40200031

Specifix-20 kit

Epoxy cold mounting system curing at room temperature in about 8 hours, with no shrinkage, especially suited for vacuum impregnation. Transparent.
Code: EPO20
Cat. no: 40200048

Specifix-40 kit

Epoxy cold mounting system curing at elevated temperature (40-60 °C) in about 3.5 hours, with very low shrinkage, suitable for vacuum impregnation. Transparent.
Code: EPO40
Cat. no: 40200049

Specifix resin. 1 l

For Epoxy cold mounting system. The resin can be mixed with different curing agents to achieve various properties. For use with Specifix-20 or Specifix-40 Curing Agent.
Code: EPOIN
Cat. no: 40200051

Specifix-20 curing agent. 500 ml

For Epoxy cold mounting system for room temperature curing. 500 ml Specifix-20 Curing Agent corresponds to 2.5 l Specifix Resin.
Code: EHA20
Cat. no: 40200052

Specifix-40 curing agent. 1 l

For Epoxy cold mounting system curing at elevated temperature (40 - 60 °C). 1 l Specifix-40 Curing Agent corresponds to 2 l Specifix Resin.
Code: EHA40
Cat. no: 40200053

Please see special brochure for mounting cups, dye, taper section angles and other accessories for cold mounting.

Struers' products are subject to constant product development. Therefore, we reserve ourselves the right to introduce changes in our products without notice

USA

Struers Inc.
24766 Detroit Road
Westlake, OH 44145-1598
Phone +1 440 871 0071
Fax +1 440 871 8188
info@struers.com

CANADA

Struers Ltd.
7275 West Credit Avenue
Mississauga, Ontario L5N 5M9
Phone +1 905-814-8855
Fax +1 905-814-1440
info@struers.com

SWEDEN

Struers A/S
Smältvägen 1
P.O. Box 11085
SE-161 11 Bromma
Telefon +46 (0)8 447 53 90
Telefax +46 (0)8 447 53 99
info@struers.dk

FRANCE

Struers S.A.S.
370, rue du Marché Rollay
F- 94507 Champigny
sur Marne Cedex
Téléphone +33 1 5509 1430
Télécopie +33 1 5509 1449
struers@struers.fr

NEDERLAND/BELGIE

Struers GmbH Nederland
Electraweg 5
NL-3144 CB Maassluis
Tel. +31 (0) 10 599 72 09
Fax +31 (0) 10 599 72 01
glen.van.vugt@struers.de

BELGIQUE (Wallonie)

Struers S.A.S.
370, rue du Marché Rollay
F- 94507 Champigny
sur Marne Cedex
Téléphone +33 1 5509 1430
Télécopie +33 1 5509 1449
struers@struers.fr

UNITED KINGDOM

Struers Ltd.
Unit 25a
Monkspath Business Park
Solihull
B90 4NZ
Phone +44 0121 745 8200
Fax +44 0121 733 6450
info@struers.co.uk

IRELAND

Struers Ltd.
Unit 25a
Monkspath Business Park
Solihull
B90 4NZ
Phone +44 (0)121 745 8200
Fax +44 (0)121 733 6450
info@struers.co.uk

JAPAN

Marumoto Struers K.K.
Takara 3rd Building
18-6, Higashi Ueno 1-chome
Taito-ku, Tokyo 110-0015
Phone +81 3 5688 2914
Fax +81 3 5688 2927
struers@struers.co.jp

CHINA

Struers Ltd.
Office 702 Hi-Shanghai
No. 970 Dalian Road
Shanghai 200092, P.R. China
Phone +86 (21) 5228 8811
Fax +86 (21) 5228 8821
struers.cn@struers.dk

DEUTSCHLAND

Struers GmbH
Karl-Arnold-Strasse 13 B
D-47877 Willich
Telefon +49(02154) 486-0
Telefax +49(02154) 486-222
verkauf.struers@struers.de

ÖSTERREICH

Struers GmbH
Zweigniederlassung Österreich
Ginzkeyplatz 10
A-5020 Salzburg
Telefon +43 662 625 711
Telefax +43 662 625 711 78
stefan.lintschinger@struers.de

SCHWEIZ

Struers GmbH
Zweigniederlassung Schweiz
Weissenbrunnenstrasse 41
CH-8903 Birmensdorf
Telefon +41 44 777 63 07
Telefax +41 44 777 63 09
rudolf.weber@struers.de

CZECH REPUBLIC

Struers GmbH
Organizační složka
Havlíčková 361
CZ-252 63 Roztoky u Prahy
Tel: +420 233 312 625
Fax: +420 233 312 640
david.cernicky@struers.de

POLAND

Struers Sp. z o.o.
Oddział w Polsce
ul. Lirowa 27
PL-02-387 Warszawa
Tel. +48 22 824 52 80
Fax +48 22 882 06 43
grzegorz.uszynski@struers.de

HUNGARY

Struers GmbH
Magyarországi fióktelep
Puskás Tivadar u. 4
H-2040 Budaörs
Phone +36 (23) 428-742
Fax +36 (23) 428-741
zoltan.kiss@struers.de

SINGAPORE

Struers A/S
627A Aljunied Road,
#07-08 BizTech Centre
Singapore 389842
Phone +65 6299 2268
Fax +65 6299 2661
struers.sg@struers.dk

www.struers.com