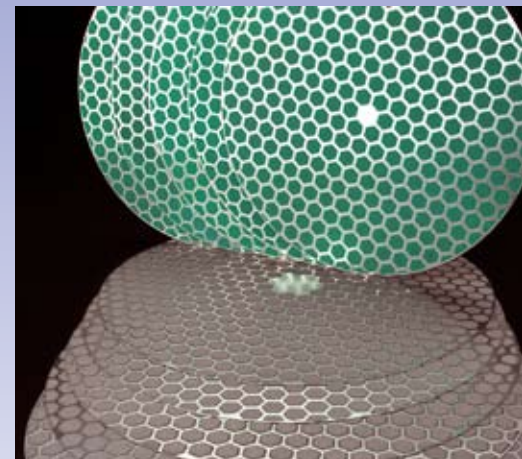


AbraPol-20



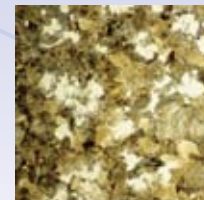
An automatic, high-capacity machine with 350 mm disc size for fast and efficient grinding and polishing



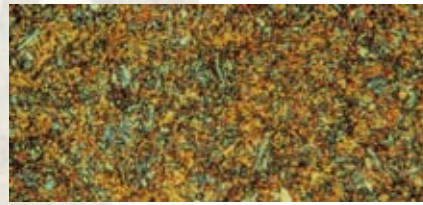
AbraPol-20 is a powerful and fast grinding and polishing machine, ideal for laboratories or workplaces carrying out quality control testing of very large samples or a high volume of specimens

Unique advantages

- Sturdy and powerful design ensuring trouble-free operation year after year
- Fast and efficient grinding and polishing providing high planeness and reproducibility, thus saving valuable preparation time and costs
- Easy to operate without requiring extensive training
- Variable speed on both preparation disc and specimen holder
- Maximum level of operator safety
- Removal rate sensor to monitor the amount of material removed
- Built-in preparation methods and communication with MethodPro
- Built-in LED light for illumination of preparation disc



Martensitic steel, etched, 350 x.



Sturdy and powerful

AbraPol-20 is a powerful, high capacity machine setting new standards for grinding and polishing. The power of a grinding and polishing machine has never been so strong. The main motor is built into a sturdy, welded frame and the whole machine is designed for vibration-free preparation.

The machine handles quickly and easily just about any sample and fits in any production environment. Year after year it lives up to the demand of the daily high volume metallographic sample preparation.

Reduced preparation time

AbraPol-20 is the fastest preparation machine on the market, setting new standards in metallographic sample preparation.

AbraPol-20 reduces the total preparation time compared to other machines and at the same time increases the number and size of samples that can be prepared.

The keys to these remarkable results are to be found through a combination of high, variable rotation speed and the large area of the preparation disc.

AbraPol-20 is designed for a 350 mm disc. The large area of the disc allows an efficient utilisation of 200 mm speci-

men holders. Combining this with a rotational speed of up to 500 rpm, the total preparation time is reduced. Thus the total preparation time e.g. for steel will be only 5 minutes and 30 seconds, see table below.

Reduced preparation cost

AbraPol-20 is not only saving valuable time for the user, but also substantially reduces preparation cost. As a result of the reduced preparation time, the consumption of diamond suspension will be significantly decreased. The large surface of the 350 mm disc considerably increases the lifetime of the grinding and polishing surfaces.

In short, the preparation time and the consumption of diamond suspension are reduced while the life-time of the preparation surfaces is increased. That makes AbraPol-20 the most economic high volume preparation machine available in the market.

User-friendly design

The AbraPol-20 is controlled by a user-friendly interface. A large display makes it easy to select or create a preparation method. Only one operation key is necessary to select and start a preparation method. 10 Metalog Guide methods are also included, covering the preparation of most materials. Thus, even operators with limited preparation experience can prepare all kinds of materials immediately.

Next to the Metalog Guide methods, 10 groups with up to 20 methods can be created in the User Methods. The software also contains information about all Struers consumables like grinding and polishing surfaces, suspensions and lubricants. That makes it easy to develop new preparation methods and avoid possible mistakes like combining wrong consumables.

In addition, new preparation methods can easily be transferred to AbraPol-20 via a LAN module and MethodPro. Methods from e-Metalog can also be downloaded and sent on to the machine.



Moveable dosing arm.



Tough floor-based grinding and polishing machine.

Preparation method for martensitic steel

Plane grinding on AbraPlan-20

Consumable	Grinding stone grit 60
Speed, rpm	1450
Time	30 sec

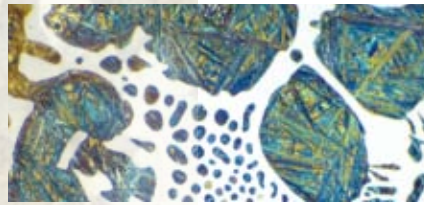
Fine grinding on AbraPol-20

Consumables	MD-Allegro + DiaPro Allegro/Largo
Speed, rpm	300/300
Time	3 min

Polishing on AbraPol-20

Consumables	MD-Plus + DiaPro Plus
Speed, rpm	300/300
Time	2 min

Total preparation time 5 minutes and 30 seconds



Martensitic white cast iron. Bright field, 500x.

Also Scentis can access the AbraPol-20 for easy download of preparation information.

Variable speed for optimal preparation

On AbraPol-20 both the preparation disc and the specimen mover have the advantage of variable speed. The preparation disc can run between 50 and 500 rpm adjustable in steps of 10 rpm, and the specimen mover can run between 50 and 300 rpm also adjustable in steps of 10 rpm.

For the grinding process a high speed of the grinding disc is essential for a high material removal, so here the up to 500 rpm ensures a very short preparation time.

For the fine grinding and the polishing process variable speed on both disc and holder means that sensitive materials can be prepared at slow speeds whereas tough materials can be prepared at high speeds for the shortest possible preparation time.

Maximum operator safety

Because of the relatively high speeds that can be employed on the AbraPol-20 we have decided to equip the machine with a safety guard.

The safety guard has also an additional advantage: If alcohol-based consumables are used, e.g. for the preparation of water sensitive materials, the safety guard keeps the fumes within the machine. Via the built-in exhaust tube the machine can be connected to an external exhaust system for the safe extraction of the alcohol fumes.

The entire working area is encapsulated using a transparent cover. Thus there is no access at all to any rotating parts. The machine cannot be started before the cover is closed, and the cover can first be opened again when the machine has stopped.

Additionally, the machine is equipped with an emergency stop, which stops all machine functions immediately when engaged.

Controlled material removal

In many situations grinding for a specified grinding time is not a good idea. With small samples too much material might be removed, while large samples or hard materials may barely have been touched.

Therefore, the AbraPol-20 is equipped with a sensor to accurately measure the material removal.

On the AbraPol-20 the measuring length of the removal rate sensor is 35 mm. That means that also high samples, glued onto a specimen holder can be ground using the removal rate sensor.

AbraSystem

AbraPol-20 is a highly adaptable machine that will meet all your needs. In its basic form, it comes with a standard tap water cooling system and a dosing unit with three pumps. But it can also be supplied with a recirculation cooling unit, for example if the user wants to reduce the risk of corrosion in connection with the preparation of ferrous materials. The AbraSystem also includes the plane grinding machine, AbraPlan-20. A company with high capacity requirements will find the ideal solution is an AbraPlan for plane grinding, an AbraPol for fine grinding and a second AbraPol for polishing.



A transparent safety shield secures operator safety.

AbraPol-20 is equipped with a large display, making it easy to select or create a preparation method.



AbraPol-20 has room for a 50 l. recirculation cooling unit.

Technical data

Disc	Rotational speed Size	50-500 rpm in steps of 10 300/350 mm (12"/14")
Specimen holder	Speed Direction Force Max. size sample holder	50-300 rpm in steps of 10 CW/CCW 50-700 N 200 mm / 8"
Dosing Unit	Level No. of pumps	0-20 3 standard + 3 optional
Software and Electronics	LC Display Controls	240x128 characters Touch pad and Push/turn knob
Environment	Noise level Surrounding temperature Humidity	(idle 300/300) 70 dB(A) 5-40°C Max. 95% RH
Supply voltage	Power consumption No. of phases Output, main motor	3 kW 3 (3L+PE) 2,2 kW
Water mains	Water supply	Max. 10 bar
Compressed air	Compressed air supply	6-10 bar
Dimensions and weight	Width Depth Height Weight	840 mm (33.1") 980 mm (38.6") 1560 mm (61.4") 400 kg (1070 lb)

Specifications

AbraPol-20

Automatic microprocessor-controlled machine for grinding and polishing of specimens in specimen holders 160 and 200 mm dia. With transparent safety shield. Recirculation cooling unit (05766xxx) grinding/polishing discs and specimen holders are ordered separately.

Cat. no:	Voltage:
05886129	3 x 200-210 V / 50/60 Hz
05886135	3 x 220-240 V / 50/60 Hz
05886146	3 x 380-415 V / 50/60 Hz
05886154	3 x 460-480 V / 50/60 Hz

Accessories

Cooling System 3

With 50 l tank, small pump, Cooli-1, 50 l static filter with filter paper, consists of: 05766906, 05766916, 05761116, 05766908, 05766xxx

Cat. no:	Voltage:
05766516	1x100 V / 50 Hz
05766523	1x120 V / 60 Hz
05766522	1x220 V / 50 Hz
05766524	1x240 V / 60 Hz
05766616	1x100-120 V / 50/60 Hz CSA

Additional Dosing Unit

Three additional pumps for dosing of OP-Suspension, Lubricants and DP-Suspensions. In connection with the recirculation unit (05766xxx) the outlet kit 05886903 is required.

Removal Rate Sensor

For accurate removal of material. Stops process after the required amount of material has been removed.

Outlet Kit

Shift valve for recirculation cooling unit (05766xxx) or drain.

Disc for Magnetic Fixation

MD-Disc, 350 mm dia. Gross weight 4.6 kg
MD-Disc, 300 mm dia. Gross weight 3.9 kg

Cat. no:

058861xx

05766xxx

05886901

05886902

05886903

02426933

02426918

Struers' equipment is in conformity with the provisions of the applicable International Directives and their appurtenant Standards (please contact your local supplier for details).

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



Struers A/S

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

AUSTRALIA & NEW ZEALAND

Struers Australia
18 Mayview Street
Milton QLD 4064
Australia
Phone: +61 7 3512 9600
Fax: +61 7 3369 8200
Info.au@struers.dk

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

CANADA

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

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

CZECH REPUBLIC

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

DEUTSCHLAND

Struers GmbH
Karl-Arnold-Strasse 13 B
D-47877 Willich
Telefon +49 (0) 2154 486-0
Fax +49 (0) 2154 486-222
verkauf.struers@struers.de

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

HUNGARY

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

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

NETHERLANDS/BELGIUM

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

POLAND

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

ROMANIA

Struers GmbH
Sucursala Sibiu
Str.Scoala de Inot, nr. 18
RO-550005 Sibiu
Phone +40 269 244 558
Fax +40 269 244 559
romania@struers.de

SCHWEIZ

Struers GmbH
Zweigniederlassung Schweiz
Weissenbrunnstrasse 41
CH-8903 Birmensdorf
Telefon +41 44 777 63 07
Fax +41 44 777 63 09
switzerland@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

SWEDEN

Struers A/S
Ekbacksvägen 22, 3 tr
SE-168 69 Bromma
Telefon +46 (0)8 447 53 90
Telefax +46 (0)8 447 53 99
struers@struers.dk

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

USA

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

ÖSTERREICH

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

www.struers.com