

TegraDoser Remote

Instruction Manual

Original Instructions



CE

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1 About this manual

**CAUTION**

Struers equipment must only be used in connection with and as described in the Instruction Manual supplied with the equipment.

**Note**

Read the Instruction Manual carefully before use.

**Note**

If you want to view specific information in detail, see the online version of this manual.

1.1 Accessories and consumables

Accessories

For information about the available range, see the TegraDoser Remote brochure:

- [The Struers Website](http://www.struers.com) (<http://www.struers.com>)

Consumables

The equipment is designed to be used only with Struers consumables specifically designed for this purpose and this type of machine.

Other products 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 consumables not supplied by Struers.

For information about the available range, see: [The Struers Website](http://www.struers.com) (<http://www.struers.com>).

2 Safety

2.1 Intended use

TegraDoser Remote is a dosing unit for 6 abrasive suspensions or lubricants and 1 for water.

TegraDoser Remote is intended to be used in combination with:

- TegraSystem Remote.

The device is designed to be used with Struers consumables specially designed for this purpose and this type of device.

The device must be operated only by skilled/trained personnel.

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

Do not use the device for the following

Other equipment than stated in the section "Intended use".
TegraDoser Remote is not designed for dosing oxide polishing suspensions.

Model

TegraDoser Remote

2.2 TegraDoser Remote safety precautions



2.2.1 Read carefully before use

Ignoring this information and mishandling of the equipment can lead to severe bodily injuries and material damage.

General safety precautions

1. The operator must read the safety precautions and Instruction Manual, as well as relevant sections of the manuals for any connected equipment and accessories. The operator must read the Instruction Manual and, where applicable, the Safety Data Sheets for the applied consumables.
2. This machine must be operated and maintained only by skilled/trained personnel.
3. 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.
4. The machine must be placed on a safe and stable table with an adequate working height.
5. Consumables: only use consumables specifically developed for use with this type of materialographic machine. Alcohol-based consumables: follow the current safety rules for handling, mixing, filling, emptying, and disposing of alcohol-based liquids.
6. If you observe malfunctions or hear unusual noises, switch off the machine and call technical service.
7. In case of fire, alert bystanders and the fire brigade. Disconnect the electrical power supply. Use a powder fire extinguisher. Do not use water.
8. Struers equipment must only be used in connection with and as described in the Instruction Manual supplied with the equipment.
9. If the equipment is subjected to misuse, incorrect installation, alteration, neglect, accident or incorrect repair, Struers will accept no responsibility for damage to the user or the equipment.
10. Dismantling of any part of the equipment, during service or repair, should always be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).
11. For equipment placed in an enclosed area: The use and handling of this type of equipment must comply with local rules and regulations.

2.3 Safety messages

Struers uses the following signs to indicate potential hazards.



ELECTRICAL HAZARD

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



DANGER

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



WARNING

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



CAUTION

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



CRUSHING HAZARD

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



HEAT HAZARD

This sign indicates a heat hazard which, if not avoided, can result in minor, moderate or serious injury.



Emergency stop

Emergency stop

General messages



Note

This sign indicates that there is a risk of damage to property, or a need to proceed with special care.



Hint

This sign indicates that additional information and hints are available.

2.4 Safety messages in this manual



CAUTION

Do not use the machine with non-compatible accessories or consumables.



CAUTION

Struers equipment must only be used in connection with and as described in the Instruction Manual supplied with the equipment.



ELECTRICAL HAZARD

Switch off the electrical power supply before installing electrical equipment. The machine must be earthed (grounded). Make sure that the actual electrical power supply voltage corresponds to the voltage stated on the type plate of the machine. Incorrect voltage can damage the electrical circuit.

3 Get started

3.1 Device description

TegraDoser Remote is designed as a support system for TegraSystem Remote. TegraDoser Remote is used for programming of preparation methods for TegraSystem Remote. TargetDoser supplies suspensions, lubricants and cleaning media.

The operator programs the methods on the TegraDoser Remote user interface and transfers it to TegraSystem Remote. The polishing media are dosed automatically based on the settings defined by the selected method.

Additional suspension, lubricant and water can be dosed manually by using the buttons on the control box.

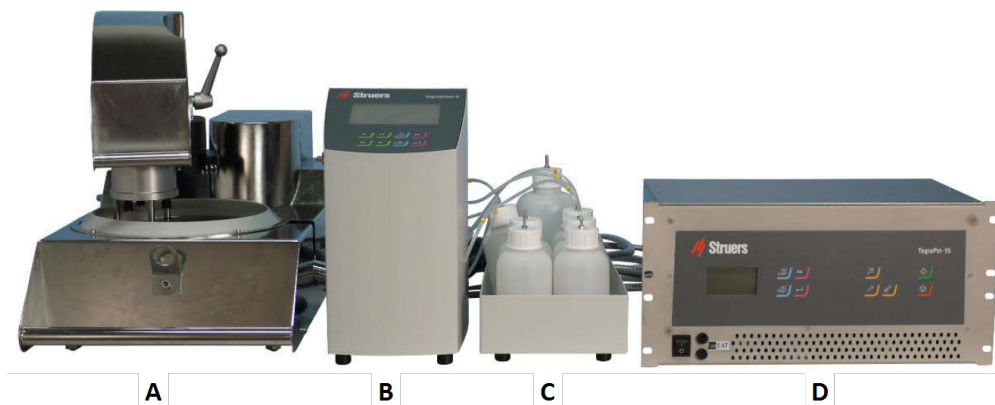
3.2 TegraDoser Remote (option)



CAUTION

Do not use the machine with non-compatible accessories or consumables.

TegraDoser Remote connected to TegraSystem Remote

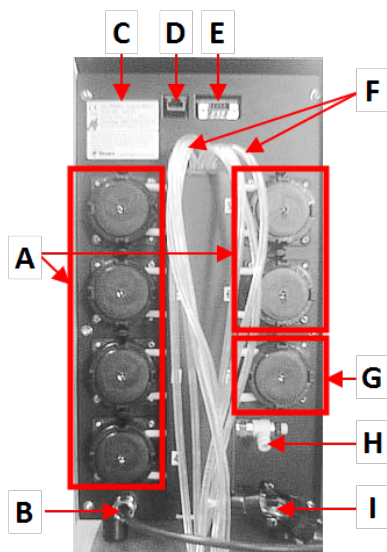


- A** TegraSystem Remote
- B** TegraDoser Remote
- C** TegraDoser Remote bottle unit
- D** Control box

Front view



- A** TegraDoser Remote
- B** Bottle unit with bottles



Rear view

- A** 6 pumps for diamond suspension or lubricant
- B** Communication cable/Power supply cable
- C** Type plate
- D** Network connection
- E** Service socket
- F** Supply tubes from doser
- G** Pump for water
- H** Not used
- I** Tube connection - for dosing head on TegraSystem Remote

4 Transport and storage

If, at any time after the installation, you have to move the unit or place it in storage, there is a number of guidelines we recommend that you follow.

- Package the unit securely before transportation. Insufficient packaging could cause damage to the unit and will void the warranty. Contact Struers Service.
- We recommend that you use the original packaging and fittings.

4.1 Long-term storage or shipping

For instructions on how to prepare the unit for long-term storage or shipping, see the specific machine manual.

Pay specific attention to the following:

- Disconnect the unit from the electrical power supply.
- Remove the dosing head.
- Place the machine and accessories in their original packaging.

5 Installation

5.1 Unpack the machine



Note

We recommend that you keep all original packaging and fittings for future use.

1. Cut the packing tape on the top of the box.
2. Remove the loose parts.
3. Remove the unit from the box.

5.2 Check the packing list

Optional accessories may be included in the packing box.

The packing box contains the following items:

Pcs.	Description
1	TegraDoser Remote
1	Dosing bottle unit
1	Screw - for securing the dosing head
6	Silicone tubes for the pump for alcohol-based products
1	Dummy plug for the control box
7	Bottles for water, suspensions and lubricants
1	Communication cable: TegraDoser Remote - Control box
1	Instruction Manual set

5.3 Location

TegraDoser Remote (option)

- Place the device on a level and stable surface outside the enclosed area.
1. Place TegraDoser Remote as close to the TegraSystem Remote control box as possible.
 2. The unit is supplied with the tubes connected.

5.4 Powering TegraDoser Remote



ELECTRICAL HAZARD

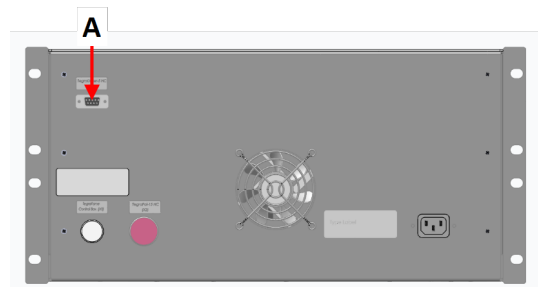
Switch off the electrical power supply before installing electrical equipment.

The machine must be earthed (grounded).

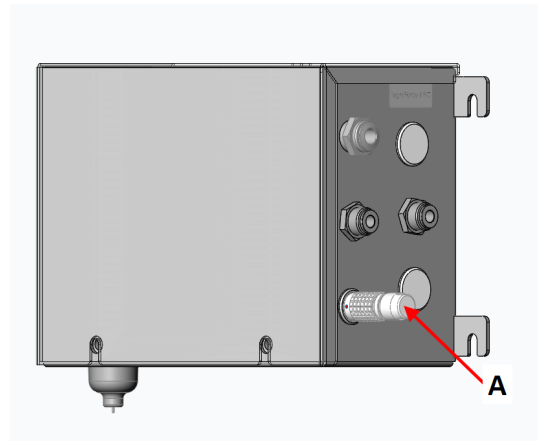
Make sure that the actual electrical power supply voltage corresponds to the
Incorrect voltage can damage the electrical circuit.

Procedure

1. Switch off the control box.
2. Connect the communication cable from TegraDoser Remote to the control box. (A)



3. Mount the dummy plug in the socket on the control box. (A)



A Dummy plug

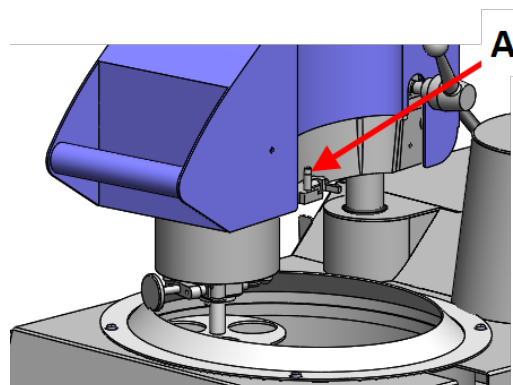
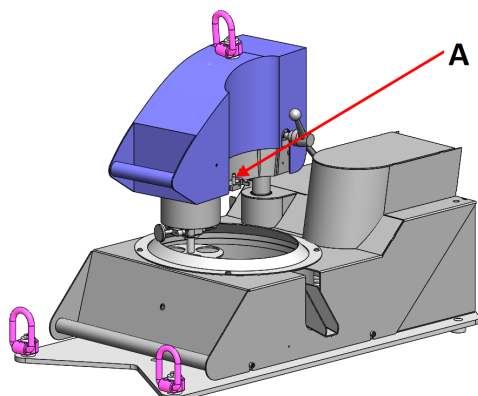
5.5 Installing TegraDoser Remote

TegraDoser Remote is supplied with a 7-nozzle dosing head with tubing for mounting on the specimen mover.

- A** Dosing head connection

Fitting the dosing head to the specimen mover

1. Insert the dosing head into the recess on the side of the specimen mover. **A** Dosing head connection



2. Press downwards until the dosing head is in position.
3. Insert the included screw and tighten it to secure the dosing head.
4. Make sure that the tubes from TegraDoser Remote are not stretched tightly. The specimen mover must be able to turn freely.

Removing the dosing head from the specimen mover

1. Loosen the securing screw located on the top of the dosing head.



Note

Make sure that the tubes do not get caught on the specimen mover when you lift the dosing head clear.

2. Grip the top and bottom of the dosing head and pull it upwards until it is free of the specimen mover.

5.6 Changing lubricant/suspension

Struers recommends using a separate bottle cap for each consumable.

To use the bottle cap with another consumable:

1. Remove the bottle.
2. Hold the bottle firmly and remove the bottle cap.
3. Empty the bottle and fill it with a mild soap solution.
4. Open the valve and clean the dosing nozzle.
5. Exchange the soap water with clean water and repeat the above procedure.
6. Put the bottle cap on a Struers lubricant/suspension bottle.

6 Prepare the device

For instructions on how to prepare the device for operation, see the specific machine manual.

7 Operate the device

For instructions on how to operate the device, see the specific machine manual.

See also the section "Intended use" for the specific machine manual.

8 Maintenance and service

Technical questions and spare parts

If you have technical questions or when you order spare parts, state serial number and voltage/frequency. The serial number and the voltage are stated on the type plate of the machine.

8.1 General cleaning

To ensure a longer lifetime for your machine, we strongly recommends regular cleaning.



Note

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



Note

Do not use acetone, benzol or similar solvents.

If the machine is not to be used for a longer period of time

- Clean the machine and all accessories thoroughly.

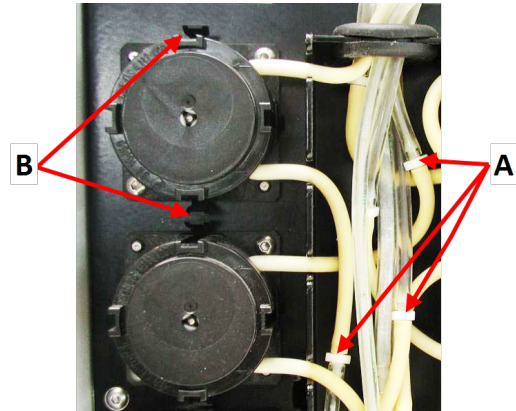
8.2 Change the tubes

When you use alcohol-based lubricants, the Novoprene tubes mounted in the pumps will harden over time. Silicone has a better resistance against alcohol.

You can replace the tubes with the set of silicone tubes supplied with the unit.

Procedure

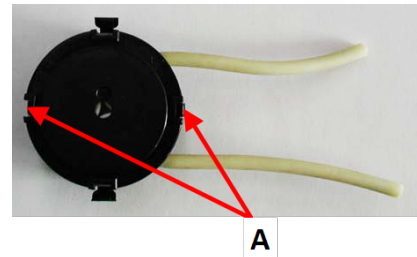
1. Disconnect the doser tubes at the white connectors. (A)
The white connectors must remain on the tubes connected to the pump.
2. Press the two tabs at the base of the pump and remove the pump from the axle. (B)



A White connectors

B Tabs

3. Press the two tabs at the base of the pump and remove the bottom cover. (A)



4. Remove the three rollers.
5. Remove the Novoprene tube.
6. Fit the new tube into the housing and press it firmly into place.



7. Press the three rollers into the pump housing.
8. Remount the bottom cover.



9. Press the pump back onto the axle.
10. Reconnect the tubes.
11. Make sure that the tubes are connected correctly so that liquid is pumped to the specimen mover.

8.3 Daily

- Clean all accessible surfaces with a soft, damp cloth.
- Check and refill dosing bottles as needed.

8.4 Spare parts

Technical questions and spare parts

If you have technical questions or when you order spare parts, state the year of production. The year of production is engraved on the cylinder arm.

For further information, or to check the availability of spare parts, contact Struers Service. Contact information is available on [Struers.com](https://www.struers.com).

8.5 Disposal



Equipment marked with a WEEE symbol contains electrical and electronic components and must not be disposed of as general waste.

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

For disposal of consumables and recirculation fluid, follow local regulations.

9 Troubleshooting

For troubleshooting guidance, see the specific machine manual.

10 Technical data

10.1 Technical data

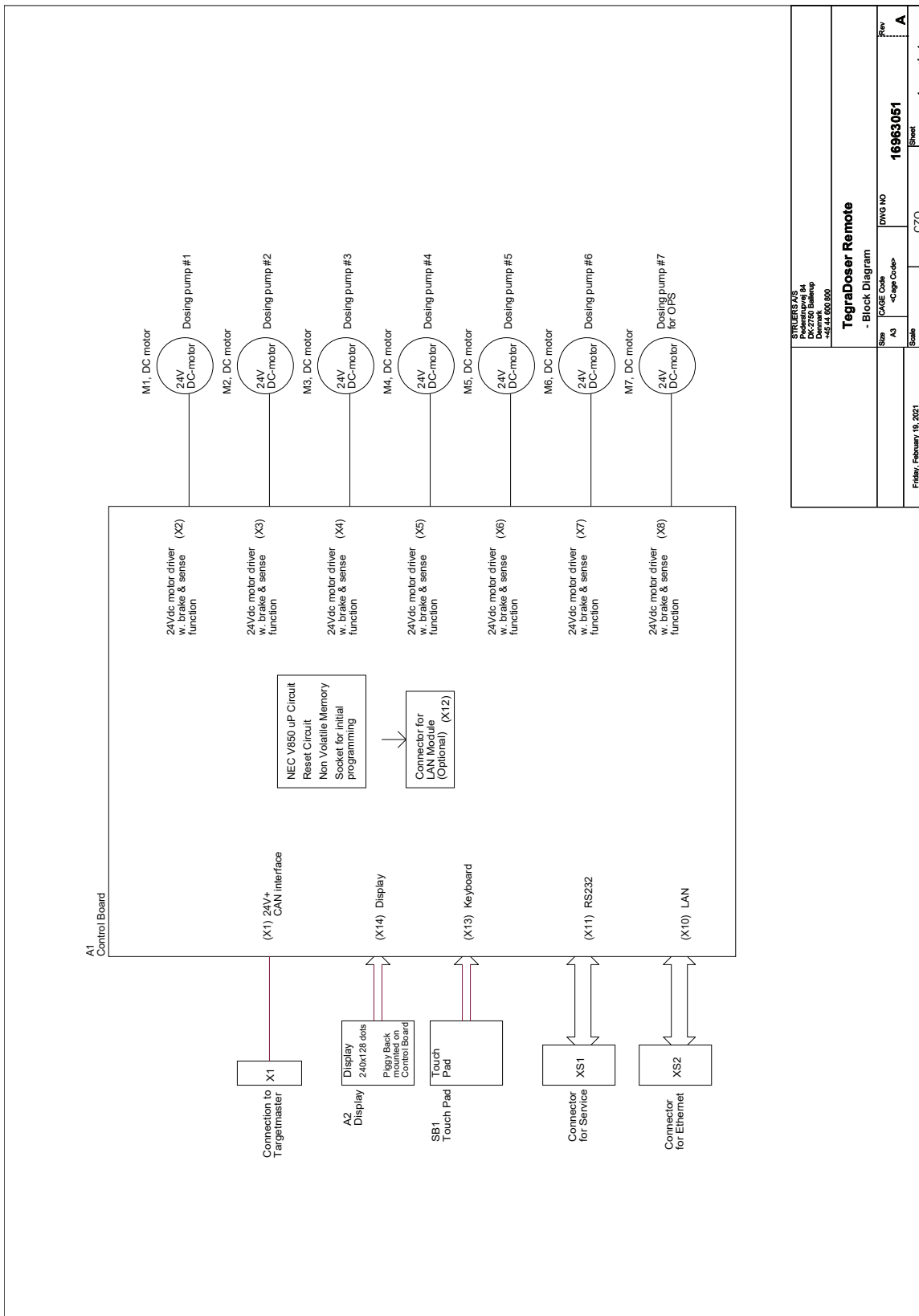
Peristaltic Pumps	Number of Pumps	7 pcs
	Pump Capacity (Continuous)	52 ml/min (6 pcs for Suspensions and Lubricants) 100 ml/min (1 pcs for water)
	Dosing levels suspensions	0.2 - 4 ml (20 steps)
	Dosing levels suspensions (DiaPro, DiaDuo)	0.2 - 12 ml (20 steps)
	Dosing levels lubricants	0.2 - 12 ml (20 steps)
Bottles	½ l bottles	6 pcs
	1 l bottles	1 pcs
Software and electronics	Controls	Touch pad
	Display	LCD 240 x 128 dots with white LED backlight
Safety standards		CE-labeled according to EU directives
REACH		For information about REACH, contact your local Struers office.
Operating environment	Surrounding temperature	5-40°C (41-104°F)
	Humidity	35-85% RH non-condensing
Storage and transport conditions	Surrounding temperature	-5-60°C (4-104°F)
Power supply	Voltage/frequency	24 V DC
	Current, maximum load	1 A from TegraSystem Remote
Noise level	A-weighted sound emission pressure level at workstations	LpA = 58 dB(A) (measured value). Uncertainty K = 4 dB(A) Measurements made in accordance with EN ISO 11202
Vibration level	Declared vibration emission	N/A

Dimensions and weight Polishing unit, Specimen mover	Height	38 cm (7.9")
	Width	21 cm (8.3") excluding bottle tray 55 cm (21.5") including bottle tray
	Depth	20 cm (7.9")
	Weight	8 kg (17.6 lbs) excluding bottle tray 10 kg (22 lbs) including bottle tray
Dimensions and weight Nozzle Head	Height	11 cm (4.3")
	Width	5 cm (2")
	Depth	12 cm (4.7")
	Weight	0.6 kg (1.3 lbs)
	Hose length on Doser head (standard)	3 m (9.8 feet) (max. app. 16 m (52.5 feet) only with DiaPro Suspensions and Lubricants)

10.2 Diagrams

Title	No.
Block diagram	16963051
Circuit diagram	See the diagram number on the type plate of the equipment, and contact Struers Service via Struers.com .

16963051



STUBBERS AS Industrivej 14 DK-2750 Ballerup Denmark +45 44 55 83 80		TegraDoser Remote - Block Diagram	
Size	FIGE Code	DWG NO	Rev
A3	<Page Code>	16963051	A
Scale		CZO	1 of 1
Friday, February 18, 2021			

10.3 Legal and regulatory information

FCC notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

11 Manufacturer

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Fax: +45 44 600 801
www.struers.com

Responsibility of the manufacturer

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

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

The manufacturer is to be considered responsible for effects on safety, reliability, and performance of the equipment only if the equipment is used, serviced, and maintained in accordance with the instructions for use.

en For translations see
bg За преводи вижте
cs Překlady viz
da Se oversættelser på
de Übersetzungen finden Sie unter
el Για μεταφράσεις, ανατρέξτε στη διεύθυνση
es Para ver las traducciones consulte
et Tõlked leiate aadressilt
fi Katso käännökset osoitteesta
fr Pour les traductions, voir
hr Za prijevode idite na
hu A fordítások itt érhetők el
it Per le traduzioni consultare
ja 翻訳については、
lt Vertimai patalpinti
lv Tulkojumus skatīt
nl Voor vertalingen zie
no For oversættelser se
pl Aby znaleźć tłumaczenia, sprawdź
pt Consulte as traduções disponíveis em
ro Pentru traduceri, consultați
se För översättningar besök
sk Preklady sú dostupné na stránke
sl Za prevode si oglejte
tr Çeviriler için bkz
zh 翻译见

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