

LaboPol-60

Instruction Manual

Original Instructions



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Table of Contents

1 About this manual	5
2 Safety	5
2.1 Intended use	5
2.2 Safety precautions	6
2.3 Safety messages	7
2.4 Safety messages in this manual	8
3 Get started	9
3.1 Device description	9
3.2 Front view	10
3.3 Rear view	11
3.4 Accessories and consumables	11
3.4.1 Preparation disc types	12
4 Transport and storage	12
4.1 Transport	12
4.2 Long-term storage or shipping	12
5 Installation	13
5.1 Unpack the machine	13
5.2 Check the packing list	13
5.3 Lift the machine	14
5.4 Location	15
5.5 Power supply	15
5.5.1 Single-phase supply	16
5.5.2 2-phase supply	16
5.5.3 Connection to the machine	16
5.6 Water supply and water outlet	17
5.6.1 Connect to the water supply	17
5.6.2 Connect to the waste water outlet	17
5.7 Recirculation unit	18
5.7.1 Connect the recirculation unit to the water inlet	18
5.7.2 Connect the recirculation cooling unit to the water outlet	19
5.7.3 Connect the communication cable	19
5.8 Mount a preparation surface	19
5.9 Noise	20

6 Operate the machine	20
7 Maintenance and service	20
7.1 General cleaning	21
7.2 Daily	21
7.3 Weekly	21
7.4 Annually	21
7.4.1 Test the safety devices	21
7.4.2 Emergency stop	22
7.5 Spare parts	23
7.6 Service and repair	23
7.7 Disposal	24
8 Troubleshooting	24
8.1 Troubleshooting	24
9 Technical data	25
9.1 Technical data	25
9.2 Technical data - equipment units	26
9.3 Safety Related Parts of the Control System (SRP/CS)	27
9.4 Diagrams	27
9.4.1 Circuit diagram	28
9.4.2 Block diagram - 16333051 B	29
9.4.3 Water diagram - 16341001 A	30
9.4.4 Diagrams - equipment units	31
9.5 Legal and regulatory information	31
10 Manufacturer	31
Declaration of Conformity	33

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, and save it for future reference.

**Note**

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

2 Safety

2.1 Intended use

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

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

The machine is for professional manual or semi-automatic materialographic preparation (grinding or polishing) of materials for further materialographic inspection.

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

Manual preparation

LaboPol-60 is intended to be used in combination with:

- LaboUI

Semi-automatic preparation

LaboPol-60 is intended to be used in combination with:

- LaboForce-50
- LaboForce-100 with or without LaboDoser-100
- LaboForce-Mi

Do not use the machine for the following

Preparation (grinding or polishing) of materials 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 machining, heating or pressure.

Model

LaboPol-60

2.2 Safety precautions



Read carefully before use

In combination with: LaboUI, LaboForce-50, LaboForce-100, LaboForce-Mi, LaboDoser-100.

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

Specific safety precautions - residual risks

1. The operator must read the Instruction Manual and, where applicable, the Safety Data Sheets for the applied consumables.
2. The machine must be placed on a safe and stable table with an adequate working height. The table must be able to carry at least the weight of the machine and the accessories.
3. Connect the machine to a cold water tap. Make sure that the water connections are leak-proof and that the water outlet is working.
4. Keep clear of rotating parts during operation. When you perform manual grinding or polishing, be careful not to touch the disc. Do not try to collect a specimen from the tray while the disc is rotating.
5. To prevent specimens from detaching from the specimen holder, make sure that the specimen or specimens are clamped securely in the specimen holder.
6. Wear suitable gloves to protect fingers from abrasives and warm/sharp specimens.
7. Protective footwear is recommended when you handle heavy specimen holders.
8. When working at machines with rotating parts, take care to prevent clothes and/or hair from being caught by the rotating parts. Appropriate safety clothing must be used.
9. Prolonged exposure to loud noises may cause permanent damage to a person's hearing. Use hearing protection if the exposure to noise exceeds the levels set by local regulations.
10. Risk of hand to arm vibration during manual preparation. Prolonged exposure to vibration may cause discomfort, joint damage or even neurological damage.
11. The machine must be disconnected from the electrical power supply before any service. Wait 5 minutes until residual potential on the capacitors is discharged.
12. The machine must not be used for any type of explosive and/or flammable material, or materials which are not stable during machining, heating or pressure.

General safety precautions

1. 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.
2. The operator must read the safety precautions and Instruction Manual, as well as relevant sections of the manuals for any connected equipment and accessories.
3. This machine must be operated and maintained only by skilled/trained personnel.
4. The machine must always be used with the splash guards in place.
5. Make sure that the actual electrical power supply voltage corresponds to the voltage stated on the name plate of the machine. The machine must be earthed (grounded). Always follow local regulations. Always switch off the electrical power supply and remove the plug or power cable before dismantling the machine or installing additional components.
6. Struers recommends that the main water supply is shut off or disconnected if the machine is to be left unattended.
7. 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.
8. Keep your hands clear of the specimen holder (if applicable) or specimen mover plate when lowering the specimen mover unit, if installed.
9. If you observe malfunctions or hear unusual noises, switch off the machine and call technical service.
10. Do not switch the machine on and off more than once every five minutes. Damage to the electrical components could occur.
11. In case of fire, alert bystanders and the fire brigade. Disconnect the electrical power supply. Use a powder fire extinguisher. Do not use water.
12. Struers equipment must only be used in connection with and as described in the Instruction Manual supplied with the equipment.
13. The machine is designed to be used only with Struers consumables specifically designed for this purpose and this type of machine.
14. 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.
15. Dismantling of any part of the equipment, during service or repair, should always be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.)

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.

**WARNING**

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

**CRUSHING HAZARD**

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

**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

**WARNING**

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

**WARNING**

Switch off the machine, disconnect the electrical power cable and wait 5 minutes before you dismantle the machine or install additional components.

**WARNING**

Do not use the machine with defective safety devices.
Contact Struers Service.

**WARNING**

Safety critical components must be replaced after a maximum lifetime of 20 years.
Contact Struers Service.

**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.

**ELECTRICAL HAZARD**

The pump of the recirculation unit must be earthed (grounded).
Make sure that the electrical power supply voltage corresponds to the voltage stated on the name plate of the pump.
Incorrect voltage can damage the electrical circuit.

**CRUSHING HAZARD**

Take care of your fingers when handling the machine.
Wear safety shoes when handling heavy machinery.

**CAUTION**

Prolonged exposure to loud noises may cause permanent damage to a person's hearing.
Use hearing protection if the exposure to noise exceeds the levels set by local regulations.

3 Get started

3.1 Device description

LaboPol-60 is a dual disc machine for metallographic preparation (grinding/polishing) using preparation discs of 230, 250 or 300 mm in diameter.

LaboPol-60 is for manual preparation when used with LaboUI. The right disc is always intended for manual preparation.

LaboPol-60 is for semi-automatic preparation when used with LaboForce-50, LaboForce-100 or LaboForce-Mi. The specimen mover is always installed on the left side of the machine.

The operator selects the grinding/polishing surface and the cooling fluid/abrasive suspension to be applied.

Cooling water is applied when the operator opens the water tap. Other fluids are applied manually or by a separate dosing unit.

With LaboUI the operator holds the specimens during the preparation.

With LaboForce-50, LaboForce-100 and LaboForce-Mi the operator places the specimens in a device, the specimen mover plate or the specimen holder.

With LaboUI, LaboForce-50 and LaboForce-Mi the operator sets the rotation speed of the preparation disc before starting the process.

With LaboForce-100 the operator sets the process parameters before starting the process.

The machine must always be used with the splash guards in place.

The splash guard for manual preparation is supplied with the machine. (For the 300 mm diameter disc)

The splash guard for other types of preparation must be ordered separately.

The operator starts the machine by pressing the Start button on the control panel. Both discs start rotating.

With LaboUI and LaboForce-50 and LaboForce-Mi the operator stops the machine by pressing stop on the control panel. Both discs stop.

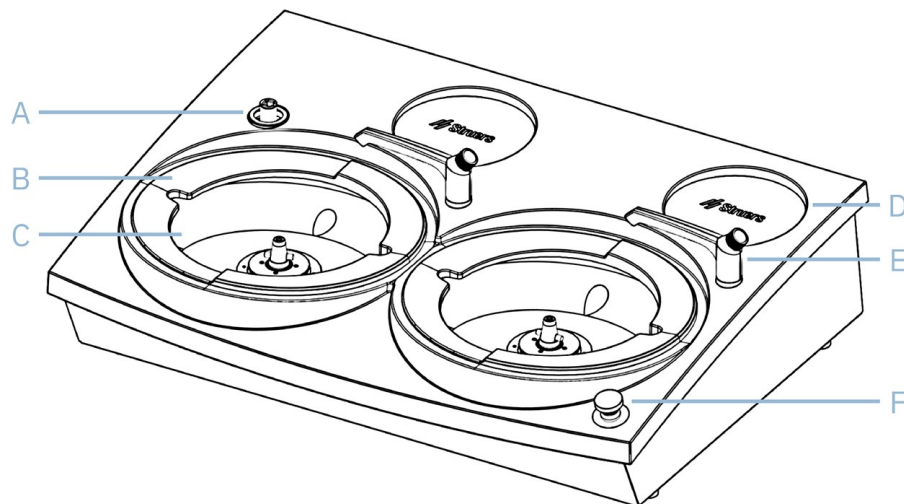
With LaboForce-100 the machine stops automatically when the process is completed. Both discs stop.

The operator cleans the specimens before the next preparation step or inspection.

We recommend that an exhaust system is applied when alcohol-based suspension or lubricants are used.

If the emergency stop is activated, the power to all moving parts is cut.

3.2 Front view



- A** Connection for control panel/specimen mover
- B** Splash guard
- C** Preparation disc location

- D** Storage pad
- E** Water tap
- F** Emergency stop

Emergency stop



WARNING

Before you release the emergency stop, investigate the reason for activating the emergency stop and take any necessary corrective action.



Emergency stop

If LaboForce-50, LaboForce-100, LaboDoser-100, or LaboForce-Mi is mounted on the machine, activating the emergency stop on the machine will also stop LaboForce-50, LaboForce-100, LaboDoser-100, or LaboForce-Mi.

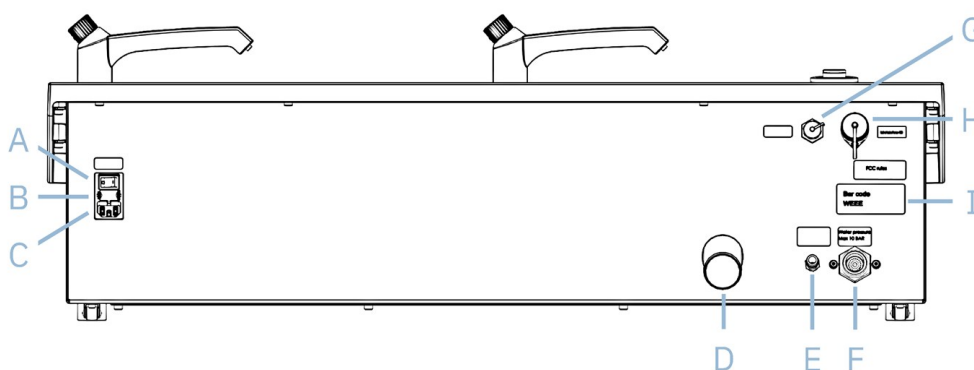
**Emergency stop**

Do not use the emergency stop for operational stop of the machine during normal operation.

Before you release the emergency stop, investigate the reason for activating the emergency stop and take any necessary corrective action.

- To activate the emergency stop, press the red emergency stop button.
- To release the emergency stop, turn the red emergency stop button clockwise.

3.3 Rear view



A Main switch	F Water inlet from main water supply
B Fuses	G Recirculation unit port
C Power port	H LaboForce-100 port
D Waste-water outlet	I Name plate
E Water inlet from recirculation unit	

3.4 Accessories and consumables

Accessories

For information about the available range, see the LaboPol-60 brochure on our website at www.struers.com.

Consumables

The machine 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, visit our website at www.struers.com.

3.4.1 Preparation disc types

The machine can be used with the following disc types:

Preparation disc types	Preparation surface
MD-Disc	MD surface
Wet Grinding Disc	SiC Paper
Aluminum disc	Adhesive-backed consumables

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 Transport

1. Disconnect the unit from the electrical power supply.
2. Disconnect the water inlet and the water outlet.
3. Disconnect the cooling system, if installed. See the instructions for the specific unit.
4. Remove the splash guard, the preparation disc and the bowl liner.

4.2 Long-term storage or shipping



Note

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

1. Clean the machine and all accessories thoroughly.
2. Disconnect the unit from the electrical power supply.
3. Disconnect the water inlet and the water outlet.
4. Disconnect the cooling system, if installed. See the instructions for the specific unit.
5. Remove the splash guard, the preparation disc and the bowl liner.
6. Remove the control panel or specimen mover.
7. Remove any accessories.

8. Lift the machine by gripping the base of the machine from beneath, from both the left side and the right side.
9. Place the machine and accessories in their original packaging.
10. Secure the boxes on a pallet with straps.

At the new location

- At the new location, make sure that the required facilities are in place.

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 machine 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	LaboPol-60
2	Electrical power supply cables
2	Disposable bowl liner, clear plastic
2	Splash guard for manual preparation
1	Water inlet hose. Diameter: 19 mm (¾"). Length: 2 m (6.6')
1	Filter gasket
1	Reduction ring with gasket, ¾" to ½"
1	Water outlet hose. Diameter: 40 mm (1.6"). Length: 1.5 m (4.9')
1	Elbow pipe for water outlet

Pcs.	Description
1	Hose clamp
1	Allen key with cross handle, 6 x 150 mm (0.24 x 6")
2	Caps for use after mounting control panel
1	Yellow cap for use with a Recirculation Cooling Unit
1	Instruction Manual set

5.3 Lift the machine

**CRUSHING HAZARD**

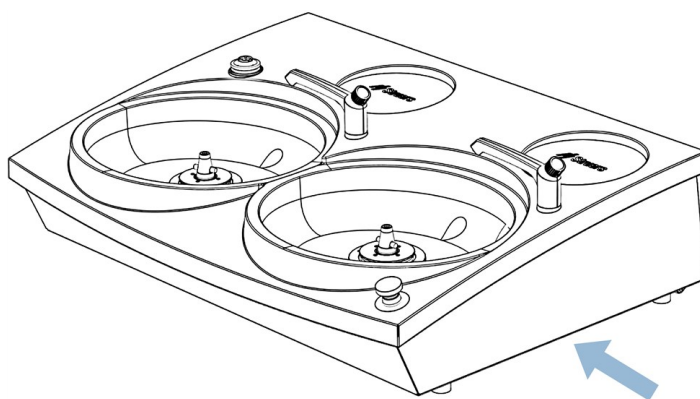
Take care of your fingers when handling the machine.
Wear safety shoes when handling heavy machinery.

**Note**

Do not lift the machine by the light gray top part or by the water tap.
Always lift the machine from beneath.

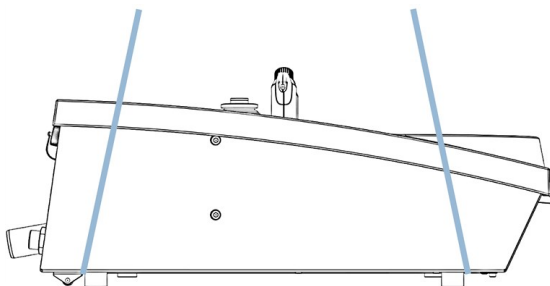
Weight

See [Technical data](#) ► 25.

Procedure

1. Lift the machine by gripping the base of the machine from beneath, from both the left side and the right side.

Alternatively, use a crane and two lifting straps to lift the machine:



Position the straps under the machine, so that they are on the outer side of the feet.

2. Lift the front of the machine and carefully move it onto the table using the rollers at the rear end of the machine.
3. The machine must rest securely with all 4 feet on the table.

5.4 Location



CRUSHING HAZARD

Take care of your fingers when handling the machine.
Wear safety shoes when handling heavy machinery.

- The machine must be placed close to the electrical power supply, main water supply and waste water drain.
- To facilitate easy access for service technicians, allow sufficient space around the machine.
- Place the machine on a rigid, stable workbench with a horizontal surface and an adequate height.
- To move the machine, lift the front of the machine and use the rollers to carefully move it into place.
- The machine must rest securely with all 4 feet on the table.
- To level the machine, turn the adjustable rubber feet.

5.5 Power supply



WARNING

Switch off the machine, disconnect the electrical power cable and wait 5 minutes before you dismantle the machine or install additional components.



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.

**Note**

An autotransformer is required in countries with a 110 V electrical power supply.

Power socket

- The electrical power supply socket must be easy to access.
- The electrical power supply socket must be located at a height ranging from 0.6 m to 1.9 m (2½" to 6') above floor level — ideally not higher than 1.7 m (5' 6").

**Note**

The equipment is shipped with 2 types of electrical power cables. If the plug supplied on these cables is not approved in your country, the plug must be replaced with an approved plug.

5.5.1 Single-phase supply

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



The leads must be connected as follows:

Yellow/Green	Earth (ground)
Brown	Line (live)
Blue	Neutral

5.5.2 2-phase supply

The 3-pin plug (North American NEMA) is for use on 2-phase electrical power connections.



The leads must be connected as follows:

Green	Earth (ground)
Black	Line (live)
White	Line (live)

5.5.3 Connection to the machine

1. Connect the electrical power cable to the machine (C14 IEC 320 connector).
2. Connect the cable to the electrical power supply.



5.6 Water supply and water outlet

Water for wet grinding is supplied from the main water supply or from a recirculation unit (optional).

See [Recirculation unit ► 18](#).

5.6.1 Connect to the water supply

**Note**

The cold-water supply must have a head pressure in the range: 1 - 9.9 bar (14.5 - 143 psi)

**Hint**

New water pipe installations:

- Let the water run for a few minutes to flush any debris from the pipe before you connect the machine to the water supply.

Connect the water inlet hose

Connect the 90°-angle end of the water inlet hose to the water inlet on the back of the machine:

1. Insert the filter gasket in the coupling nut with the flat side against the water inlet hose.
2. Tighten the coupling nut firmly.

Connect the straight end of the water inlet hose to the water supply tap for cold water:

1. If needed, connect the reduction piece with gasket to the water supply tap.
2. Tighten the coupling nut firmly.

5.6.2 Connect to the waste water outlet

1. Connect the elbow pipe to the waste water outlet pipe.
2. Connect the waste water outlet hose to the elbow pipe. If needed, lubricate with grease or soap to make it easier to insert the pipe in the hose. Use a hose clamp to fasten the hose to the pipe.
3. Lead the other end of the waste water hose to the waste water drain. If needed, shorten the hose.

**Note**

Make sure that the hose slopes downward towards the waste water drain throughout its entire length.

Make sure that there are no sharp bends in the waste water hose.

5.7 Recirculation unit



ELECTRICAL HAZARD

The pump of the recirculation unit must be earthed (grounded).
Make sure that the electrical power supply voltage corresponds to the voltage stated on the name plate of the pump.
Incorrect voltage can damage the electrical circuit.



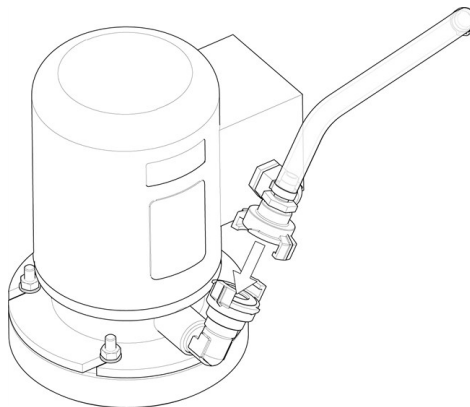
Note

Before you connect the recirculation unit to the machine, you must prepare it for use. See the Instruction Manual for this unit.

- To ensure optimal cooling, mount a recirculation unit on the machine.

5.7.1 Connect the recirculation unit to the water inlet

1. Mount the yellow cap (supplied) on the water inlet for the main water supply.
2. Remove the quick coupling from one end of the hose delivered with the pump.
3. Slide the hose clamp onto the hose and connect to the water inlet for recirculation water on the back of the machine.
4. Tighten the hose clamp.



5. Connect the quick coupling at the other end of the inlet hose directly to the pump outlet of the recirculation unit.

5.7.2 Connect the recirculation cooling unit to the water outlet



A Static filter unit

1. Connect the water outlet hose to the water outlet pipe. Use a hose clamp to secure the hose.
2. Lead the other end of the hose into the mounting hole in the bracket on top of the static filter unit.
3. Make sure that the hose slopes downward towards the waste water drain throughout its entire length. If needed, shorten the hose.

5.7.3 Connect the communication cable

- Connect the communication cable from the control box of the recirculation cooling unit to the socket on the back of the machine.

5.8 Mount a preparation surface

LaboPol-60 has two preparation discs. The following instructions apply to both discs.



Note

Make sure that the cavity on the underside of the preparation disc and the cone on the machine are clean.
Make sure that the bowl liner is clean and that the drain is positioned correctly.

Procedure

1. Place the preparation disc carefully on the driving pin.
2. Rotate it slowly until it is safely engaged.

5.9 Noise



CAUTION

Prolonged exposure to loud noises may cause permanent damage to a person's hearing.

Use hearing protection if the exposure to noise exceeds the levels set by local regulations.

For information on the sound pressure level value, see [Technical data ► 25](#).

How to handle noise during operation

Different materials have different noise characteristics.

Manual preparation

- To lower the noise, try to decrease the force with which the specimen is pressed against the preparation surface. The processing time may increase.

Semi-automatic preparation

- To lower the noise, decrease the rotational speed and/or the force with which the specimens are pressed against the preparation surface. The processing time may increase.

6 Operate the machine

For instructions on how to operate the machine, see the specific instruction manual for the control unit.

7 Maintenance and service

Proper maintenance is required to achieve the maximum up-time and operating lifetime of the machine. Maintenance is important in ensuring continued safe operation of your machine.

The maintenance procedures described in this section must be carried out by skilled or trained personnel.

Safety Related Parts of the Control System (SRP/CS)

For specific safety related parts, see the section "Safety Related Parts of the Control System (SRP/CS)" in the section "Technical data" in this manual.

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 name plate of the machine.

7.1 General cleaning

To ensure a longer lifetime for your machine, we strongly recommend 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 long period of time

- Clean the machine and all accessories thoroughly.

7.2 Daily

- Clean all accessible surfaces with a soft, damp cloth.
- Check the bowl liner and clean or dispose of it when it is filled with debris.

7.3 Weekly

- Clean all accessible surfaces with a soft damp cloth and common household detergents.

7.4 Annually

7.4.1 Test the safety devices

**WARNING**

Do not use the machine with defective safety devices. Contact Struers Service.

**WARNING**

Safety critical components must be replaced after a maximum lifetime of 20 years. Contact Struers Service.

**Note**

Testing should always be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).

The safety devices must be tested at least once a year.

Emergency stop

1. Press the Start button. Operation starts.



2. Press the emergency stop.



3. If operation does not stop, press the Stop button, and contact Struers Service.

7.4.2 Emergency stop

Test 1

1. Press Start.
The machine starts operating.



2. Press the emergency stop.



3. If operation does not stop, press the Stop button and contact Struers Service.

Test 2

1. Press the emergency stop.



2. Press the Start.



3. If the machine starts, press the Stop button and contact Struers Service.

7.5 Spare parts

For specific safety related parts, see the section "Safety Related Parts of the Control System (SRP/CS)" in the section "Technical data" in this manual.

Technical questions and spare parts

If you have technical questions or when you order spare parts, state the serial number and the year of production. This information is stated in the name plate on the machine.

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).

7.6 Service and repair

We recommend that a regular service check be carried out yearly or after every 1500 hours of use.

When the machine is started up, the display shows information about total operation time and the machines service information.

After 1500 hours of operation time, the display will show a message reminding the user that a service check should be scheduled.



Note

Service must only be performed by a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).
Contact Struers Service.

7.7 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.

8 Troubleshooting

8.1 Troubleshooting

Error	Cause	Action
Noise when the machine starts, or the turntable will not turn.	The belt is not tight enough.	The belt must be tightened. Contact Struers Service.
The machine does not operate when the start switch is pressed.	The main switch is off.	Turn the main switch on.
	The fuse is blown (located at the back of the machine).	Replace the fuse.
Water is not draining away.	Drain hose squeezed.	Straighten the hose.
	Drain hose clogged.	Clean the hose.
	Drain hose does not slope downwards.	Adjust the hose to an even slope.
Water dripping underneath the machine.	Leak in water hose or defect in solenoid valve.	• Turn the main switch off.
		• Disconnect the unit from the electrical power supply.
		• Turn the water supply off.
		• Disconnect the unit from the water supply, if needed.
		• Contact Struers Service.

Error	Cause	Action
Cooling water stops	Water tap on water supply closed.	Turn the water on.
	Built-in water tap closed.	Turn the water on.
	Built in water tap blocked	Clean water tap.
	Filter at the water inlet blocked	Clean the filter with compressed air only.

9 Technical data

9.1 Technical data

Preparation discs	Diameter	230 mm (9"), 250 mm (10"), 300 mm (12")
	Rotational speed	50 - 500 rpm, variable
	Spin	600 rpm
	Spin (with LaboForce-100)	150/600 rpm
	Rotational direction	Counter-clockwise
	Motor power , continuous, S1	750 W (1 hp)
	Torque (at 300 rpm)	> 24 N·m
Safety standards		See the Declaration of Conformity
Operating environment	Surrounding temperature	5 - 40°C (41 - 104°F)
	Humidity	< 85% RH non-condensing
Storage and transport conditions	Surrounding temperature	-20 - 60°C (-4 - 140°F)

Power supply	Voltage/frequency	200 - 240 V / 50 - 60 Hz
	Power inlet	1-phase (N+L1+PE) or 2-phase (L1+L2+PE) The electrical installation must comply with Installation Category II
	Power, nominal load	1300 W
	Power, idle	16 W
	Current, nominal load	5.7 A
	Current, maximum load	11.2 A
	Current, largest load	5.5 A
Safety Circuit Performance Level	Emergency stop - grinder/polisher operation	PL c
	Emergency stop - specimen mover operation	PL c
	Emergency stop - fluid supply	PL c
Residual Current Circuit Breaker (RCCB)		Type A, 30 mA (or better) is recommended
Water supply	Pressure, tap water	1 - 9.9 bar (14.5 - 143 psi)
	Water inlet	Diameter: ½" or ¾"
	Water outlet	Diameter: 40 mm (1½")
Noise level	A-weighted sound emission pressure level at workstations	LpA = 67.2 dB(A) (measured value). 4 dB
Vibration level	Declared vibration emission	N/A
Dimensions and weight	Width	95 cm (37.4")
	Depth	77.5 cm (30.5")
	Height	25 cm (9.8")
	Weight	50 kg (110 lbs)

9.2 Technical data - equipment units

For technical data covering the individual units of equipment, see the specific equipment manual.

9.3 Safety Related Parts of the Control System (SRP/CS)


WARNING

Safety critical components must be replaced after a maximum lifetime of 20 years.
Contact Struers Service.


Note

SRP/CS (safety-related parts of a control system) are parts that have an influence on safe operation of the machine.


Note

Replacement of safety critical components must only be performed by a Struers engineer or a qualified technician (electromechanical, electronic, mechanical, pneumatic, etc.).
Safety critical components must only be replaced by components with at least the same safety level.
Contact Struers Service.

Safety related part	Manufacturer/Manufacturer description	Manufacturer catalog no.	Electrical ref.	Struers catalog no.
Emergency stop button	Schlegel Latching mushroom head	ES Ø22 type RV	S1	2SA10400
Emergency stop contact	Schlegel Modular contact, momentary	1 NC type MTO	S1	2SB10071
Module holder	Schlegel Module holder. 3 elem. MHR-3	MHR-3	S1	2SA41603
Frequency inverter	Lenze	i550-C0.75/230-1, Standard I/O, STO	A2	2PU51075
Relay	Schneider Electric Relay 24 V DC DPDT	RPM21BD	K1	2KL02124
Water valve	ODE	21A2KV20, BDV08024CY	Y1	2YM12120

9.4 Diagrams

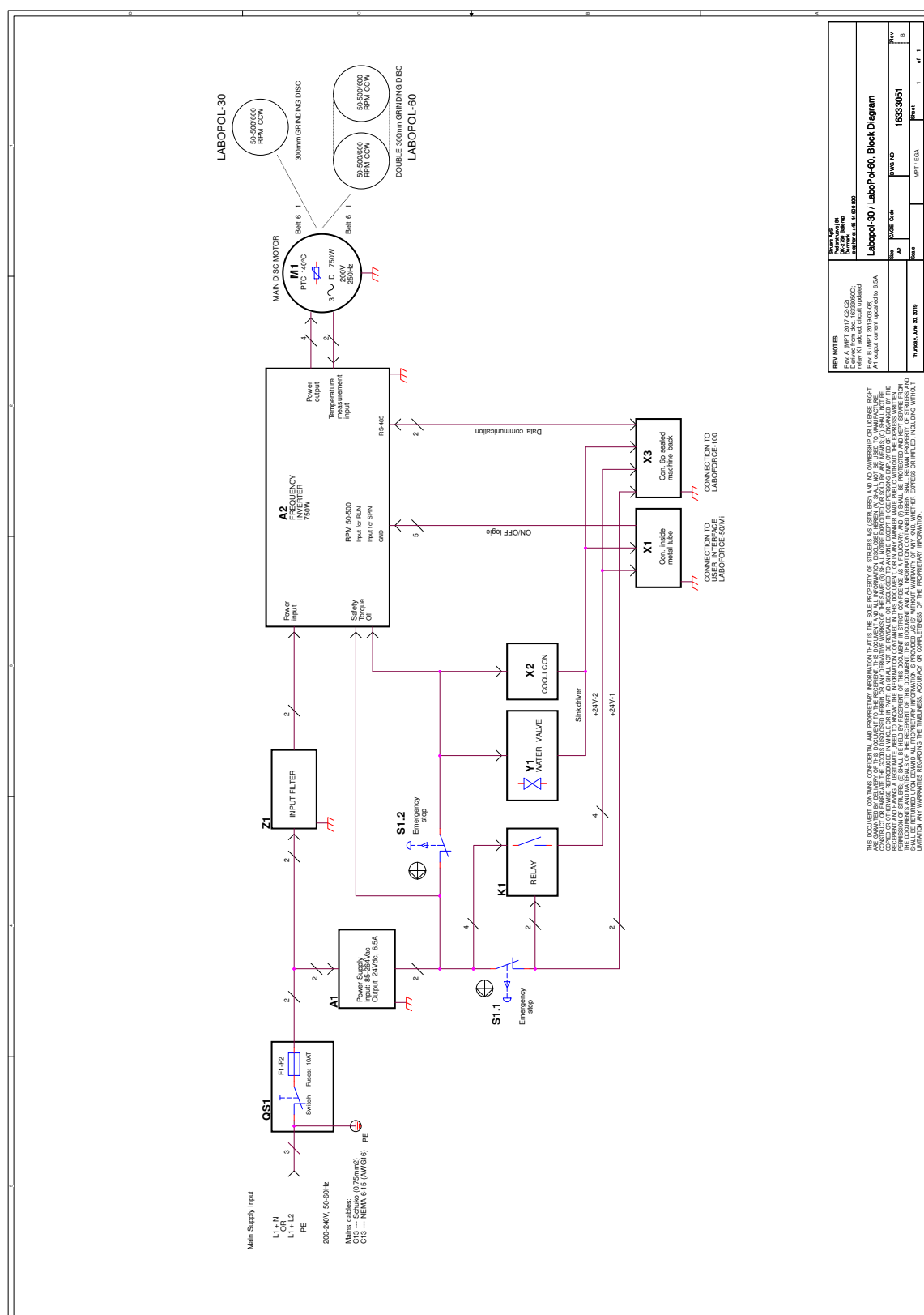

Note

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

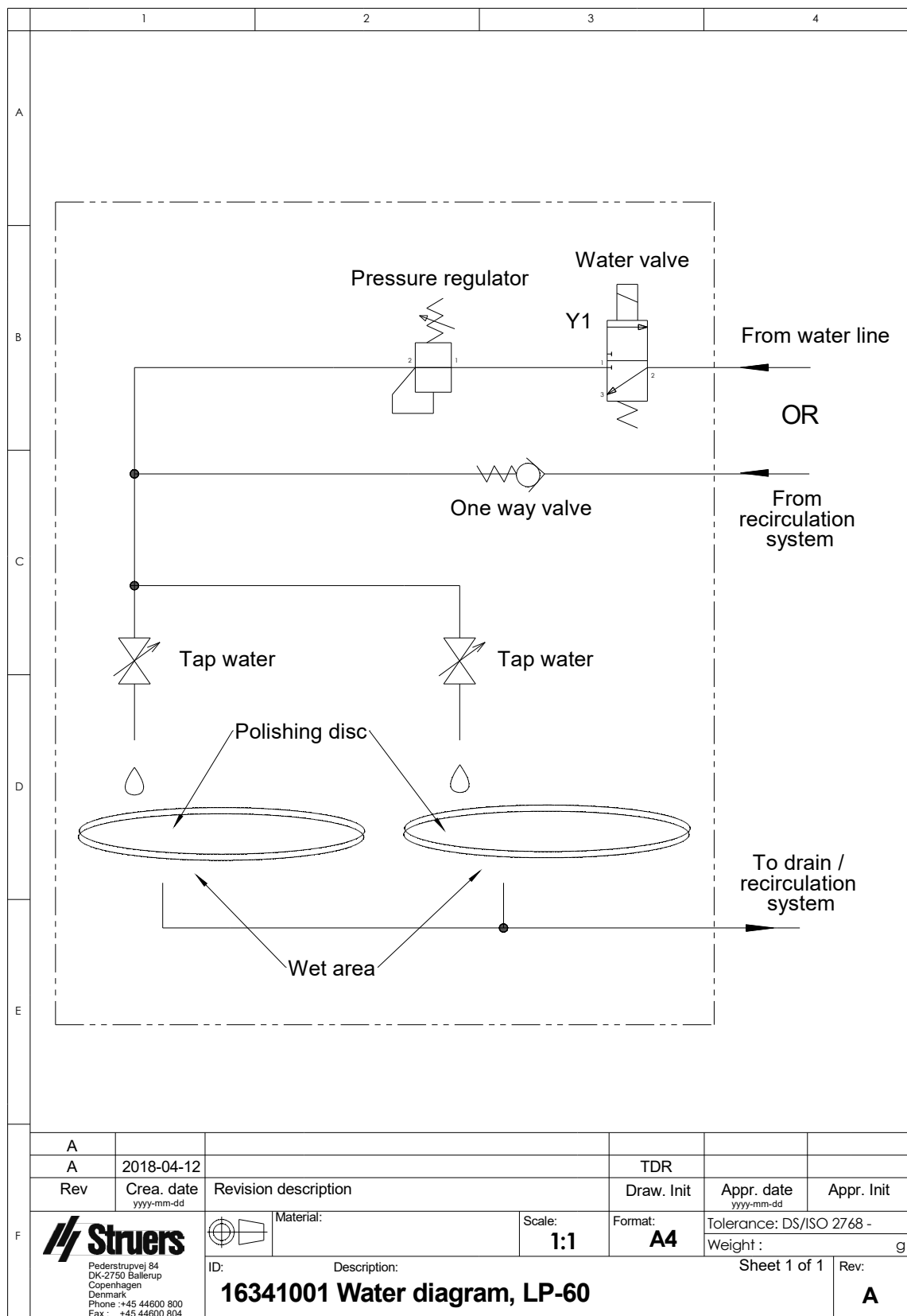
9.4.1 Circuit diagram

See the diagram number on the name plate of the equipment, and contact Struers Service via [Struers.com](https://www.struers.com).

9.4.2 Block diagram - 16333051 B



9.4.3 Water diagram - 16341001 A



9.4.4 Diagrams - equipment units

For diagrams covering the individual units of equipment, see the specific equipment manual.

9.5 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.

10 Manufacturer

Struers ApS
Pederstrupvej 84
DK-2750 Ballerup, Denmark
Telephone: +45 44 600 800
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.

Declaration of Conformity

Manufacturer	Struers ApS • Pederstrupvej 84 • DK-2750 Ballerup • Denmark
Name	LaboPol-60
Model	N/A
Function	Grinding/Polishing machine
Type	634
Cat. no.	06346127 In combination with: 06376902, 06386130, 06366127, 06356127, 06206901
Serial no.	



Module H, according to global approach

EU

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

2006/42/EC	EN ISO 12100:2010, EN ISO 13849-2:2012, EN ISO 13849-1:2015, EN ISO 13850:2015, EN ISO 14120:2015, EN 60204-1:2018, EN 60204-1-2018/Corr.:2020
2011/65/EU	EN 63000:2018
2014/30/EU	EN 61000-6-1:2007, EN 61000-6-3:2007, EN 61000-6-3:2007/A1:2011, EN 61000-6-3-A1-AC:2012, EN 61000-3-3:2013, EN 61000-3-2:2014
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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