



Maschinenfabrik Wagner GmbH & Co. KG

PLARAD

Operating Manual

PLARAD – X 1-P-Z

PLARAD – X 2-P-Z



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Important information

Before putting the unit into operation, you and any other person working with the unit must carefully read the operating manual to become familiar with the handling of the unit. This is for your own protection and will provide you with important information on how to connect and use the device in a safe manner. Store this operating manual carefully for any subsequent user. Instructions to the operating personnel on how to handle the system properly are generally given by our trained specialists. If several employees need to be instructed on how to handle or service the unit, the supplier can provide this service as well.

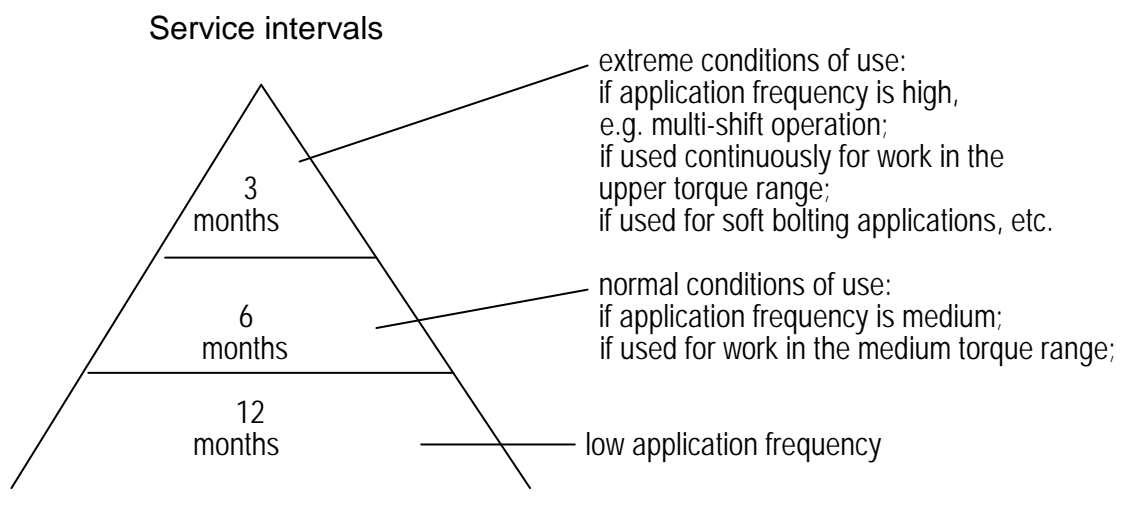
The manufacturer cannot be held liable for any failure to observe the instructions contained in the operating manual. Likewise, any non-compliance with the operating guidelines may limit the manufacturer's warranty.

To prevent the unit and the accessories from sustaining any defects or failures, we recommend that you subject the entire system to a thorough inspection at regular intervals (see Fig. below). We also recommend that you enter into a service agreement with us.

If you need to send in your device for repairs, please remember to complete the service questionnaire in full insofar as possible and include it in your shipment. This is the only way for us to obtain a detailed idea of your application as well as the possible causes for the defect, give you the proper advice, and, if applicable, take steps that will increase the reliability of the system further.

Our service department is furnished with all the speciality tools necessary and will utilise these tools in a prompt and reliable manner whenever the need for these tools arises. We also subject the unit to an in-house function and performance test after every repair and, if necessary, prepare a new torque table.

We, therefore, ask that you refrain from performing any modifications and repairs on the device or the accessories. Repairs may only be completed using original **PLARAD** spare parts.





Safety information

Operation needs to be performed in observance of all applicable regulations on accident prevention, guidelines, safety rules, basic principles, characteristics and other publications related to operational health and safety issued by the German Social Accident Insurance Institution.

1. **Keep your work area neat and tidy.**
Disorganisation in the work area increases the risk of accidents.
2. **Keep unauthorised personnel away.**
Never allow other people to touch the tool or the cable and keep them away from the work area.
3. **Keep your tools in a safe place.**
While not in use, tools should be stored in a dry and locked room where they are inaccessible to unauthorised personnel.
4. **Wear suitable work clothing.**
5. **Service your tools with care.**
Follow the maintenance guidelines. Check the plug and the connecting cable of the unit on a regular basis and have them replaced by an authorised specialist if you detect any damage. Regularly inspect extension cables and replace them if damaged. Keep grab handles dry and free of oil and grease.
6. **Always be alert.**
Monitor your work. Work in a prudent manner. Do not use the tool unless you are fully concentrated.
7. **Attention!**
For your own safety, do not use accessories or additional devices other than those specified in the operating manual. If using accessories or insertion tools other than those recommended in the operating manual, you run the risk of sustaining personal injury.
8. **Repairs only by a specialist.**
Electrical tools conform to all applicable safety regulations. Repairs may only be carried out by a specialist working for the supplier as the owner may otherwise experience accidents.

The power pack operates at a maximum pressure of 800 bar. The pressure adjusting valve is limited to the maximum pressure of the power pack. The limit of this valve must not be modified under any circumstances.

Do not exceed the maximum pressure / maximum torque as specified by the accessories identification, the type plate of the unit or the torque table, even if the power pack allows for such excess pressure.

Make sure the hose couplings lock properly into place. Secure the hose couplings with a threaded ring to prevent them from becoming uncoupled by accident.

ATTENTION! Improperly coupled hoses may prevent the system from operating properly and cause **ACCIDENTS!**

Ensure sufficient clearance for the hose connection. Never kink or twist high-pressure hoses, avoid exposing them to temperatures above 70°C and avoid dragging them across sharp edges. Check hoses and couplings for damage on a regular basis. If detecting any leaks in the hoses, shut down the system immediately. Also replace hoses, couplings, etc. without delay if they merely show damage on the exterior. Strictly adhere to the safety rules applying to hydraulic hose lines.



Protect the power pack against impact and blows and prevent it from falling down. Never remove the covers and safety devices found on the power pack. Secure the accessories to protect them from falling out or down. Use the designated handles to transport and hold the device. Never hold the power pack by the hoses during operation.

Do not make any alterations on the power pack, the device or the accessories, as this will affect your warranty claims.

Putting the pneumatic power pack into operation

The hydraulic power pack is used to generate a hydraulic pressure which can be set using a pressure relief valve and read at a pressure gauge. This pressure is supplied to the bolting tool via high-pressure hoses (flow and return) and converted into torque by means of a system of levers and ratchets.

Check the oil level at the oil level sight glass and refill oil as necessary. For the oil grade and oil change intervals, see the "Technical Data Sheet for Power Pack" included in the operating manual.

X / P

Make sure not to set a pressure greater than 6 bar at the pressure reducer found on the pressure regulation unit of the power pack. Do not allow the flow pressure of the compressed air supply line to drop below 4 bar. Pay attention to the oil level in the oiler.

Connect the high-pressure hoses at the bolting tool and the hydraulic power pack. Make sure the quick-release couplings lock properly into place. Secure the hose couplings to prevent them from becoming uncoupled by accident. Make sure the hoses are clear and untangled.

Press and hold the button "On-Forward" on the remote control until pressure setting is complete. Turn the pressure adjusting valve on the power pack to set the pressure for the required torque and read it at the pressure gauge. If the pressure gauge does not include a torque scale, you need to use the torque table of the bolting tool to set the pressure for the necessary torque.

Important notice: Check if valid torque tables are available for your bolting tool. The number of the correct torque table is specified on the unit and the "Technical Data Sheet Hydro PLARAD Bolting Tool". Compare the torque table with the torque scale applied on the pressure gauge. If you have any questions, consult our technical department.

When the desired torque has been set, press the "Off" button on the remote control or the power pack. The electric motor switches off.



Attention! When setting the torque, make absolutely sure not to exceed the maximum torque level permitted for the bolting tools and the accessories. The maximum permissible torque is indicated on the devices and the accessories.

Make sure the high-pressure hoses are clear and untangled. Never kink the hoses. Press the "On-Forward" button to extend the piston housed inside the cylinder of the device until it reaches its end position, effecting a rotational movement of the accessories used. The torque is transmitted to the bolting joint by means of an accessory inserted into the bolting tool.

The piston retracts automatically when the "On-Forward" button is released. Keep pressing the button until you can no longer detect a rotational movement. You will then have reached the previously set torque. Once the pressure indicator at the pressure gauge on the power pack has reset completely, press the "On-Forward" button on the power pack again and run the unit up to the set pressure. Meanwhile, monitor the pressure indicator and the bolting tool until the unit has come to a standstill.

Notice! A ratcheting noise of the tappet must be audible during every return stroke. This ensures that the ratchet lever is moved along by the piston during the return movement.

The power packs are equipped with an automatic cut-off device that is designed to reduce the heating of the oil. If the remote control is not actuated for approx. 20 seconds, the power pack will switch off automatically. You can resume operation immediately by pressing the "On-Forward" button.

The power pack must be relieved once the bolting process is complete:

To do so, press and hold the Off button and press the On button briefly once. Release the Off button, the pump has been relieved.

After **every uncoupling of the hoses**, the connectors need to be sealed with the sealing caps in order to prevent dirt from penetrating the oil circuit.

Caution! Hydraulic oil must not enter the soil, the groundwater or the sewage network.

You should check the indicator accuracy of the pressure gauge at regular intervals by connecting a test pressure gauge.



Compressed air regulation unit

Filter:

Drain condensation regularly and clean the sinter filter if soiled. To do so, loosen the bolting, remove the tank, loosen the fastening nut on the sinter filter and take out the sinter filter. Place the sinter filter in solvent (e.g. benzine, trichloroethylene, etc.), agitate, dry and reinsert the filter. Ensure a tight seal when doing so.

Pressure reducer:

Lightly lubricate the o-rings on sealing cone and pin every once in a while. To do so, turn off the compressed air and depressurise the unit. Unscrew the sealing cap (knurled nut) and remove the sealing cone. Lightly lubricate o-ring and pin.

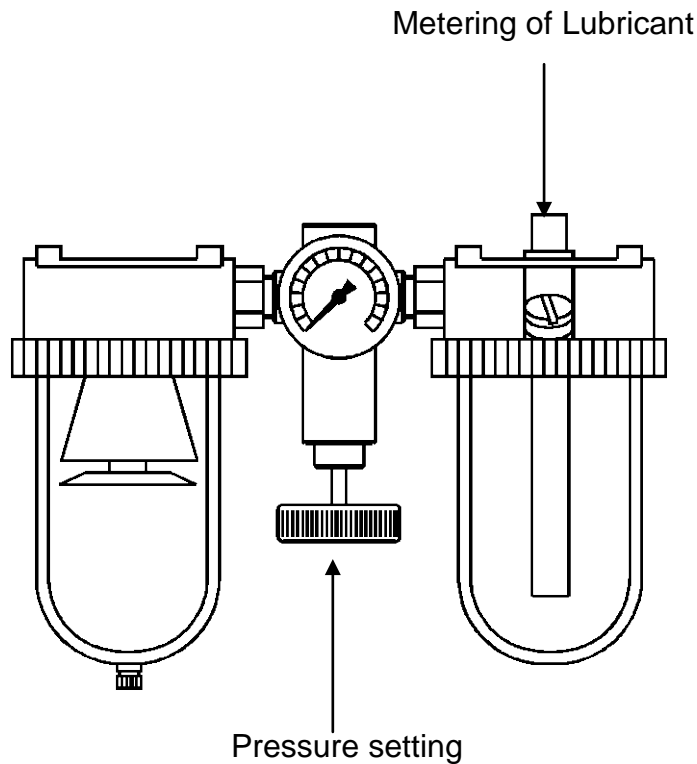
Before putting the compressed air line into service, relieve the pressure reducer by unscrewing the control screw before screwing it back in until the pressure gauge on the pressure reducer indicates the desired operating pressure.

Mist lubricator:

Use the metering screw to adjust the oil quantity during operation as necessary. The drop count is indicated in the sight glass. To refill oil, remove the locking screw, fill the tank up to the fill level marking and seal the tank again. The refilling of oil can be performed during operation and does not require that the air supply be shut off.



Attention! The plastic tanks may only be cleaned with water, petroleum or benzine. Never use cleaners or similar agents that contain benzine, acetone or trichloroethylene for cleaning the tanks. The oil to be used must not be diluted or mixed with liquids containing such plasticisers as alcohol or glystantine.



A quantity of 1 mm³ of oil per 1 m³ of compressed air is sufficient to keep wear at a minimum and to achieve the proper speed and the optimum torque.

Recommended oil grades:

VIA	Avilup RSL 46
BP	Energol HPL 46
ESSO	Nuto H
SHELL	Aeroshell Fluid 4
TEXACO	Rando Oil HD C 38