


AD-XT

- Air Dryer
Service Manual
Version 003



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1 About

1.1 This Manual

This manual is intended to be a reference guide for operators and service technicians. It provides detailed information about the user level maintenance and service, as well as overall use of the Bruker device.

Before starting any work, personnel must read the manual thoroughly and understand its contents. Compliance with all specified safety and operating instructions, as well as local accident prevention regulations, are vital to ensure safe operation.

The figures shown in this manual are designed to be general and informative and may not represent the specific Bruker model, component or software/firmware version you are working with. Options and accessories may or may not be illustrated in each figure.

1.2 Policy Statement

It is the policy of Bruker to improve products as new techniques and components become available. Bruker reserves the right to change specifications at any time.

Every effort has been made to avoid errors in text and figure presentation in this publication. In order to produce useful and appropriate documentation, we welcome your comments on this publication. Support engineers are advised to regularly check with Bruker for updated information.

Bruker is committed to providing customers with inventive, high quality products and services that are environmentally sound.

1.3 Symbols and Conventions

Safety instructions in this manual are marked with symbols. The safety instructions are introduced using indicative words which express the extent of the hazard.

In order to avoid accidents, personal injury or damage to property, always observe safety instructions and proceed with care.

DANGER



DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

This is the consequence of not following the warning.

1. This is the safety condition.
 - ▶ This is the safety instruction.

WARNING



WARNING indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

This is the consequence of not following the warning.

1. This is the safety condition.
 - ▶ This is the safety instruction.

CAUTION



CAUTION indicates a hazardous situation, which, if not avoided, may result in minor or moderate injury.

This is the consequence of not following the warning.

1. This is the safety condition.
 - ▶ This is the safety instruction.

NOTICE

NOTICE indicates a property damage message.

This is the consequence of not following the notice.

1. This is a safety condition.
 - ▶ This is a safety instruction.

SAFETY INSTRUCTIONS

SAFETY INSTRUCTIONS are used for control flow and shutdowns in the event of an error or emergency.

This is the consequence of not following the safety instructions.

1. This is a safety condition.
 - ▶ This is a safety instruction.



This symbol highlights useful tips and recommendations as well as information designed to ensure efficient and smooth operation.

2 Introduction

This document provides information for the maintenance of the air dryer AD-XT.

It replaces maintenance information given in the previous product manual.

ATTENTION:

New part numbers for maintenance kits have been defined.

The 12 months maintenance kit **W117570** replaces previous part number **50467**.

The 24 months maintenance kit **W117571** replaces previous part number **50468**.

3 Maintenance Kit 12 Months: W117570

Bruker P/N W117570 is a 12 months maintenance kit for the air dryer AD-XT (P/N W1213728 - 230V/50Hz or W1213729 - 115V/60 Hz).

The kit contains the following items.

- Dryer gas inlet filter P/N :W1213724
- Dryer gas outlet filter P/N :W1213725
- Two large o'ring seals
- A silencer filter LS 3
- An electronic chip with a connector (called dongle in the document)

The service of the dryer is required whenever the text **SEr.** blinks on the display of the dryer. This message appears after about 8000 hours of operation.

After servicing you will have to use the dongle to reset the service counter.

3.1 Gas Filters Replacement

Warning

Make sure that the pressure is removed at the inlet of the dryer before any maintenance operation. Place the power switch in position **0 = OFF**.

4 Inlet Filter Replacement

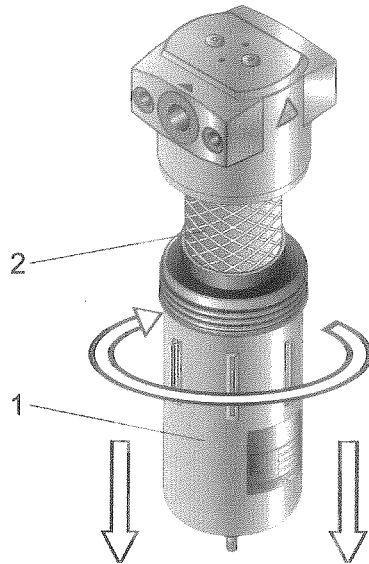


Figure 4.1: Gas Filter

1. Open the gas inlet filter housing with a tool (water pump pliers, for example) and unscrew the filter housing.
2. Remove the used filter (2) (unscrew the filter) and install the new inlet filter **W1213724** with the O-ring seal placed on top.
3. Replace the large housing O-ring, located in the holder (1) base block, if it is damaged.
4. Reinstall the filter housing.

4.1 Outlet Filter Replacement

1. Open the outlet filter housing with a water pump pliers and unscrew the filter housing.
2. Remove the used filter (unscrew the filter) and install the new filter **W1213725** with its O-ring seal placed on top.
3. Replace the large holder O-ring if it is damaged.
4. Reinstall the filter housing.

4.2 Silencer Filter Replacement

The silencer is located at the base of the dryer unit.

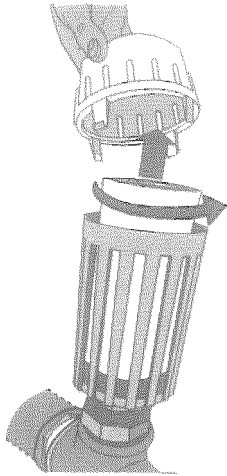


Figure 4.2: Silencer Filter

1. Remove the transparent plastic cap of the silencer housing, by turning it to unlock the soft plastic clips and pulling it out.
2. Unscrew the filter and remove it. Install the new filter LS3 and reinstall the silencer housing cap.

4.3 Reset Service Counter

DANGER



Danger of injury from electrical shock!

The electric feed cable remains live even then unit is switched Off.

- ▶ **DO NOT** touch live parts! Live electric cables can cause electrical shocks and serious injuries.

1. Switch off the power of the dryer unit. Place the power switch in position **0 = OFF**.
2. Open the cover of the MULTITRONICS controls box (4 screws to be removed), you will access to the electronic board inside.
3. Plug the dongle into the interface connector (ref: X9 PC on electronic board).
4. Press **AND HOLD** the reset button (ref: S3 RESET on electronic board) **AND** switch on the dryer unit (switch in position **I = Fix**).

The display will show the following message briefly **0.SET**, then a flashing **OFF**. This means that service time counter has been cleared.

5. Switch off the unit and unplug the dongle and close the housing cover of the electronics.



Note: The dongle can only be used **ONCE** to reset the service counter. A used dongle will show briefly **FAIL** when installed.

5 Maintenance Kit 24 Months: W117571

The kit contains the same components as kit 12 months and a perforated plate, flat gaskets and the drying agent.

The maintenance operations are the same as with the 12 months maintenance kit, but the replacement of the drying agent is added.

After servicing you will have to use the dongle to reset the service counter.

6 Drying Agent Replacement

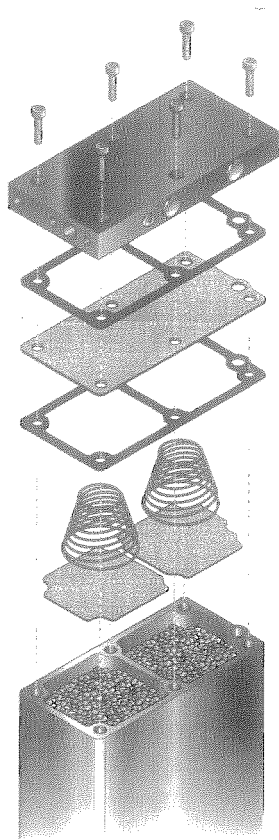


Figure 6.1: Drying Agent and Filter Plate.



WARNING

Danger to health due to dust inhalation.

During drying agent replacement dust can be produced.

► Wear a dust mask and goggles.

Instructions:

1. Power off the unit. Unit must not be under pressure.
2. Unscrew the 6 screws on top of unit and remove upper thick plate.
3. Remove gasket and filter plate.
4. Remove pressure springs of both columns
5. Remove the drying agent of both chambers with an industrial vacuum cleaner.
6. Fill both chambers with drying agent. Use a funnel and a rubber hammer (for example) to tap against vessel to compact the drying agent in the chambers.
7. Install plates and springs.
8. Install upper filter and new gasket.

9. Install upper plate and screws. Alternatively tighten screws of diagonal opposite corners. Tighten to 25 Nm with a torque wrench.

6.1 Replacement of Valves Diaphragms

The replacement kit has the part number: 1801833. It contains a set for 4 valves.

It is necessary to replace the valves diaphragms and pistons (items 2, 3, 4) when the valves continuously emit some noise or if the performance of the unit is diminished.

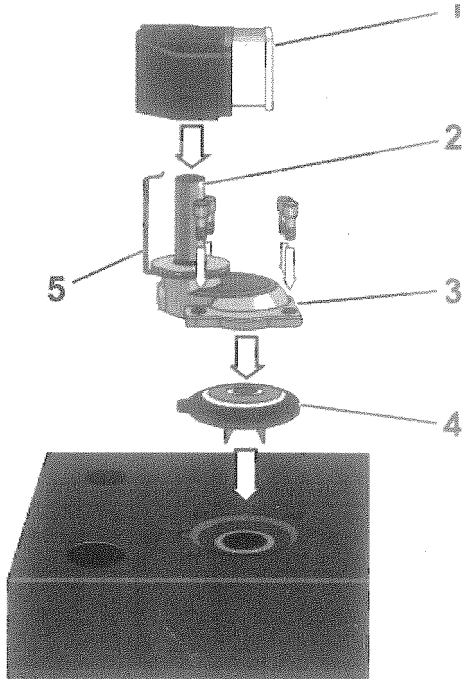


Figure 6.2: Valve Diaphragm

NOTICE

Two types of solenoid valves are on the unit.

There are two types of solenoid valves located on the bottom plate of the unit.

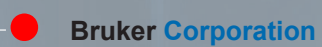
The valves on the rear side Y1 and Y2 are normally **OPEN** (the piston DOESN'T have a notch, on part 2).

The front valves Y3 and Y4 on the front type are normally **CLOSED** and HAVE a notch, on part 2).

Instructions:

1. Power off the unit.
2. Open spring holder 5 and disconnect the solenoid coil 1. Note the position and type of valve (with or without notch on part 2).
3. Open the 4 screws and remove part 3 and the diaphragm 4.
4. Install new diaphragm (please note that the diaphragm has a spur that corresponds to a hole in the base plate), install same type of valve, tighten the 4 screws.
5. Install solenoid coil and lock it with its spring holder.





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Order No: W150933