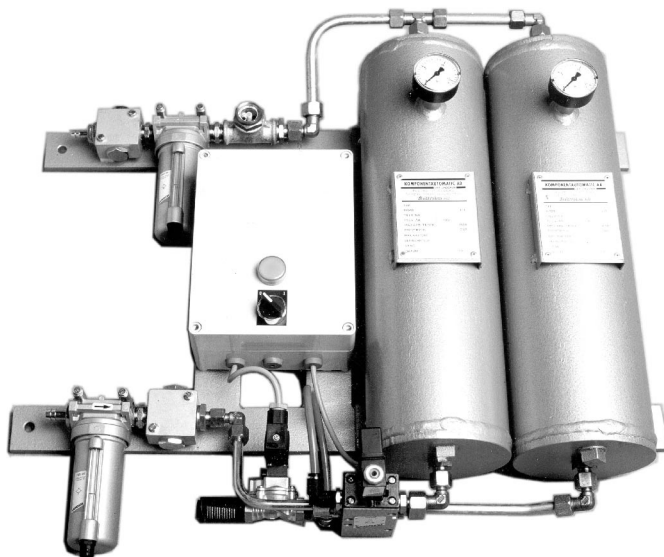


A6 CRE 30/ A6 CRE 60



**Bruksanvisning
Brugsanvisning
Bruksanvisning
Käyttöohjeet
Instruction manual
Betriebsanweisung**

**Manuel d'instructions
Gebruiksaanwijzing
Instrucciones de uso
Istruzioni per l'uso
Manual de instruções
Οδηγίες χρήσεως**

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Rätt till ändring av specifikationer utan avisering förbehålles.
Ret til ændring af specifikationer uden varsel forbeholdes.
Ret til å ændre spesifikasjoner uten varsel forbeholdes.
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Διατηρείται το δικαίωμα τροποποίησης προδιαγραφών Χωρίς προειδοποίηση.

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1 SAFETY

Users of ESAB welding equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of welding equipment. The following recommendations should be observed in addition to the standard regulations that apply to the work place.

All work must be carried out by trained personnel well familiar with the operation of the welding equipment. Incorrect operation of the equipment may lead to hazardous situations which can result in injury to the operator and damage to the equipment.

1. Anyone who uses the welding equipment must be familiar with:
 - its operation
 - location of emergency stops
 - its function
 - relevant safety precautions
 - welding
2. The operator must ensure that:
 - no unauthorized person is stationed within the working area of the equipment when it is started up.
 - that no-one is unprotected when the arc is struck
3. The work place must:
 - be suitable for the purpose
 - be free from draughts
4. Personal safety equipment
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves.
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns.
5. General precautions
 - Make sure the return cable is connected securely.
 - Work on high voltage equipment **shall only be carried out by a qualified electrician.**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand.
 - Lubrication and maintenance must **not** be carried out on the equipment during operation.



WARNING



ARC WELDING AND CUTTING CAN BE INJURIOUS TO YOURSELF AND OTHERS. TAKE PRECAUTIONS WHEN WELDING. ASK FOR YOUR EMPLOYER'S SAFETY PRACTICES WHICH SHOULD BE BASED ON MANUFACTURERS' HAZARD DATA.

ELECTRIC SHOCK - Can kill

- Install and earth the welding unit in accordance with applicable standards.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves or wet clothing.
- Insulate yourself from earth and the workpiece.
- Ensure your working stance is safe.

FUMES AND GASES - Can be dangerous to health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to keep fumes and gases from your breathing zone and the general area.

ARC RAYS - Can injure eyes and burn skin.

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.

FIRE HAZARD

- Sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

NOISE - Excessive noise can damage hearing

- Protect your ears. Use ear defenders or other hearing protection.
- Warn bystanders of the risk.

MALFUNCTION - Call for expert assistance in the event of malfunction.

READ AND UNDERSTAND THE INSTRUCTION MANUAL BEFORE INSTALLING OR OPERATING.

PROTECT YOURSELF AND OTHERS!

2 INTRODUCTION

2.1 General

The air drying units **A6 CRE 30/ A6 CRE 60** are designed for drying air for use with ESAB welding equipment.

Humid air will moisten the flux which in turn will produce porosity in the weld.

The air drying units works on the adsorption principle and can be reactivated cold.

2.2 Technical data

	A6 CRE 30	A6 CRE 60
Supply voltage (AC)	230 V 50/60 Hz	230 V 50/60 Hz
Max. power rating	40 W	50 W
Net air flow capacity at 6 bar	30 Nm ³ /h	60 Nm ³ /h
Regenerating flow at 6 bar	≈ 14 %	≈ 14 %
Maximum dew point under nominal working conditions.	- 26°C	- 26°C
Desiccant 512		
Sodium - Aluminium - Silicate	10 kg	16 kg
Nominal pore size	4 Å	4 Å
Particle size	2,5 - 5 mm	2,5 - 5 mm
Density	720 kg/m ³	720 kg/m ³
Cycle time per container.	5 min	5 min
Max. permissible air flow for oil separation filter.	60 Nm ³ /h	60 Nm ³ /h
Manifold thread size	R 1/2 "	R 1/2 "
Max. working pressure	6 bar	6 bar
Max. air pressure at testing	10 bar	10 bar
Max. inlet air temperature under nominal conditions	30°C	30°C

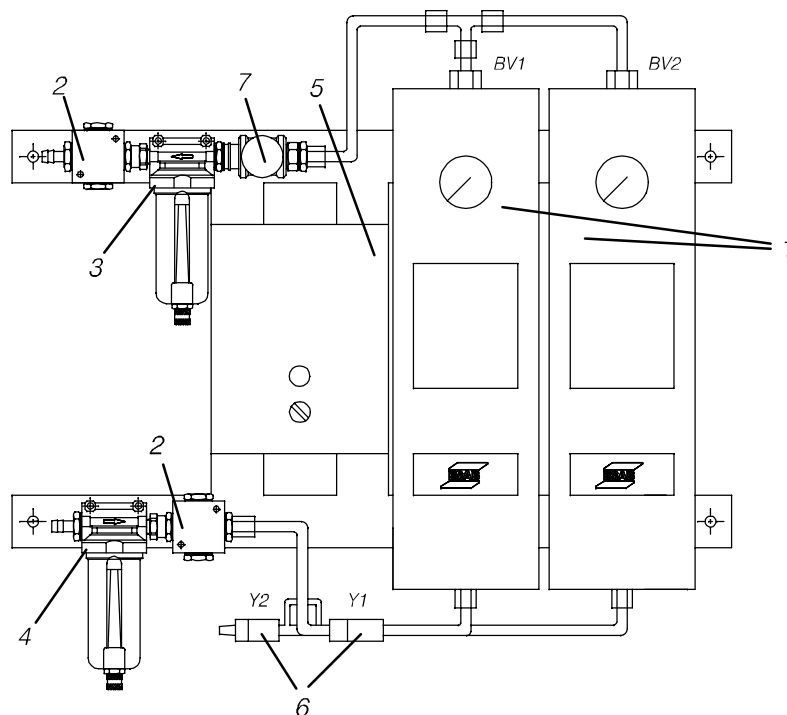
2.3 Function

The air drying units work on the cold regeneration principle and use two air containers (1) alternately.

1. When the left container is in use damp air passes through solenoid valve **Y1** up through the desiccant container and out into the supply system through non-return valve **BV1** and the dust filter (3).

Meanwhile the right container is regenerated using a small proportion of the dried air.

2. Regenerating air is taken from the outlet through a drilled hole in non-return valve **BV2** which allows a predetermined amount of air to flow through.
3. The dried air passes slowly down through the desiccant container, carrying moisture with it, and passes into the open air through solenoid valves **Y1** and **Y2**.
4. When the left container has been used for a while solenoid valve **Y2** closes and pressure begins building up in the right container.
5. When the pressure in the two containers is equal, solenoid valve **Y1** switches over so that the right container becomes the working one and the dried air is fed out into the supply system through non-return valve **BV2** and the dust filter (3) and manifold.
6. After a short period solenoid valve **Y2** opens to expel moist air from the left container, which is now regenerated in the same way as before.



- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Desiccant containers. Equipped with gauges. 2. Manifold 3. Dust filter (submicrofilter and 25 µm. filter insert.). 4. Oil filter (submicrofilter and 25 µm. filter insert.). | <ol style="list-style-type: none"> 5. Enclosed box containing control circuitry for air flow. 6. Solenoid valves for controlling air flow (Y1, Y2). 7. Dew point indicator (indicates dew point of air at -26 °C). |
|--|---|

3 INSTALLATION

3.1 General

The installation shall be executed by a professional.

- Check that the specification of the air drying unit matches the order specification.
- Make sure the unit has not been damaged during transport.

3.2 Mounting/ Placement

- Before installation, purge the lines leading to and from the air drying unit, since slag and other waste products from welding processes could cause operating problems on start-up or during future operation.

When installing the unit in older air systems it is important to make sure that the air lines leading to and from the unit do not contain oil, because the desiccant is destroyed on contact with oil.

- Install the air drying unit vertical (wall mounting).
Installation dimensions as shown in drawing on page 147 (**A6 CRE 30**) and on page 148 (**A6 CRE 60**).
If lifting equipment is used during installation this should be attached to the frame of the drying unit.
- Place the air drying unit near to the air tank in as cool a place as possible, but not where there is a risk of freezing.
The air tank should be equipped with a satisfactory water drain.
- Since the air drying unit has no bypass line it is recommended that some form of bypass circuit is installed at the time of installation, if space permits.
This can be very useful in the future, during servicing or any other temporary interruption.
- Ensure that all valves, filler vents and drain vents for desiccant are easily accessible.

3.3 Inlet/ outlet for air

1. Inlet for the damp air

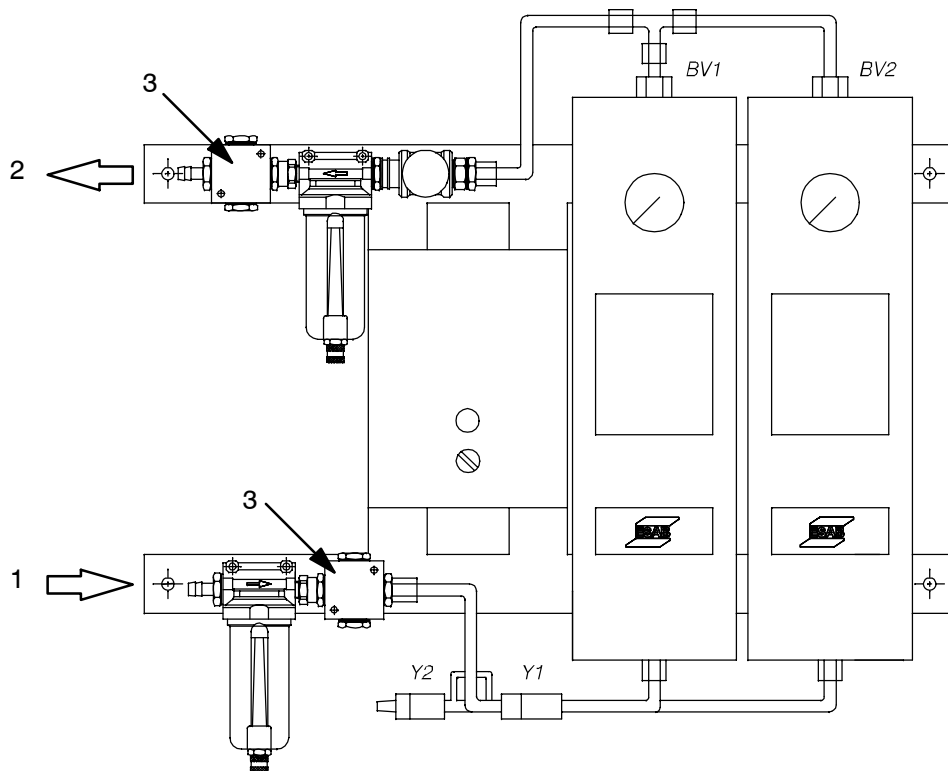
Check that air entering the air drying unit does not exceed the maximum temperature for the drying unit in question.

This is important since the performance of the air drying unit depends on the temperature of the inlet air.

If necessary it is recommended that a cooling radiator is installed before the air drying unit.

2. Outlet for the dry air

There are manifolds (3) at the inlet and outlet to allow the connection of several users to the air drying unit.



4 OPERATION

4.1 General

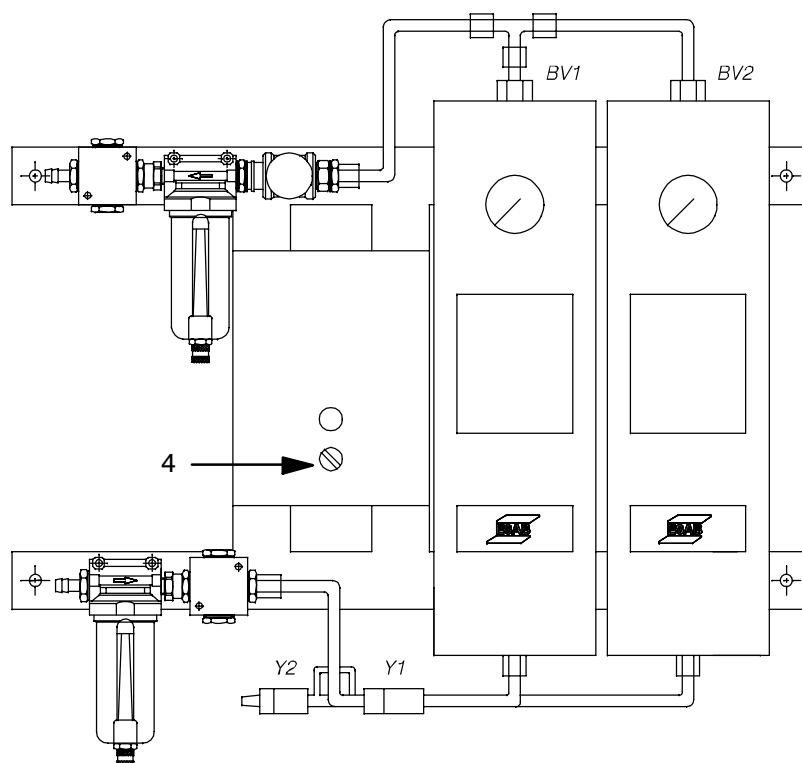
General safety regulations for the handling of the equipment appear from page 52. Read through before you start using the equipment!

4.2 Starting the air drying unit

Once the air drying unit has been installed as described, start as follows.

1. Start the compressor or turn on the compressed air.
NOTE! This must be done gradually since a rapid surge of pressure can damage equipment in a compressed air system.
 When full pressure is reached check that there are no leaks at the connections to the drying unit.
2. Check the electrical connections to the unit and make sure voltage is reaching the terminal block.
3. Turn the knob to the right on the programmer, to 0 or 180.
4. Turn on the switch.

The air drying unit is now in service and will operate in cycles as described on page 55.



4.3 Functional assessment of air drying unit

The air drying unit is an important part of the compressed air system and requires just as much attention as a compressor, for example.

The air drying unit is fitted with a dew point indicator (1) that shows yellow if the dew point is above -26°C and green if it is below -26°C .

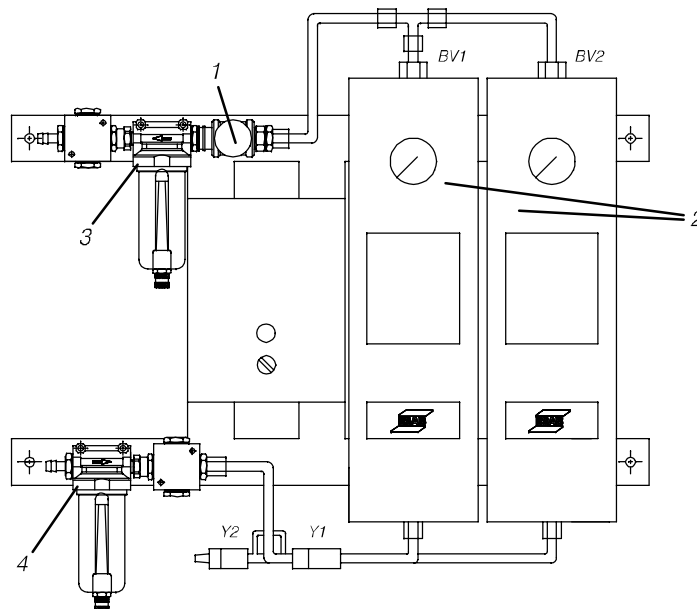
- Check the DP indicator (1) regularly as it gives a useful guide if you suspect an increase in the dew point of air leaving the unit.

Note however that there is a certain delay in the response of the DP indicator (1) and it may temporarily show a higher dew point (yellow) when the drying unit switches from one desiccant container (2) to the other.

It is therefore advisable to check the indicator at various times during the drying unit cycle before starting troubleshooting.

The following three points are important to ensure satisfactory operation of the drying unit:

- Make sure the filter prior to the air drying unit is in good condition so that the desiccant is not destroyed by oil or other contaminants. Replace the filter inserts of the oil and dust filter (4, 3) as necessary.
- Make sure the inlet air temperature is within the recommended limits.
- Make sure the working pressure and flow rate are kept within the design limits for the air drying unit.



1. Dew point indicator
2. Desiccant containers.

3. Dust filter
4. Oil filter

5 MAINTENANCE

5.1 General

Note:

All warranty undertakings given by the supplier cease to apply if the customer attempts to rectify any faults on the machine during the warranty period.

- Regularly check the air drying unit to make sure it switches correctly between desiccant containers and that the dew point indicator is working correctly. In case of problems the "TROUBLESHOOTING" section on page 61 may be of help.
- Check the operation of the dust and oil filters at regular intervals to ensure that oil and dust do not destroy the desiccant.

If properly treated the desiccant has a useful life of more than 25000 working hours.

Change the oil filter once a year if no other maintenance agreement has been made.

- Replace the rubber membrane in the outlet valve (Y2) every 2 years.

6 FAULT TRACING

6.1 Possible faults

See diagram on page 149.

1. Symptom Rising dew point

Cause 1.1 Air flow too high.

Action Adjust inlet flow.

Cause 1.2 Inlet temperature too high.

Action Cool incoming air.

Cause 1.3 Pressure too high.

Action Adjust inlet pressure.

Cause 1.4 Desiccant contaminated by oil.

Action Replace desiccant and oil filter insert of air drying unit.

2. Symptom Pressure drop across air drying unit too high.

Cause 2.1 Filter element saturated.

Action Replace filter element.

Cause 2.2 Flow rate exceeds capacity of drying unit.

Action Adjust inlet flow.

3. Symptom Pressure in regenerator tower

Cause 3.1 Filter silencer blocked.

Action Replace filter silencer.

Cause 3.2 Faulty inlet or outlet valve.

Action Repair or replace valve.

4. Symptom Reduced flow from filter silencer

Cause 4.1 Filter silencer blocked.

Action Replace filter silencer.

Cause 4.2 Faulty regeneration valve.

Action Repair or replace regeneration valve.

5. Symptom Regeneration flow too high

Cause 5.1 Fault in non-return valve or pipe from regenerating desiccant container.

Action Repair or replace non-return valve or pipe.

Cause 5.2 Faulty inlet valve.

Action Repair or replace inlet valve.

6. Symptom Drying unit does not switch between containers**Cause 6.1** Faulty inlet valve.**Action** Repair or replace inlet valve.**Cause 6.2** Faulty programmer.**Action** Check programmer and repair or replace.**Cause 6.3** Tripped fuse.**Action** Reset fuse.**7. Symptom No flow through air drying unit****Cause 7.1** Compressed air valves leading to or from drying unit are closed (also bypass line if fitted).**Action** Open valves

7 ORDERING OF SPARE PARTS

Spare parts are ordered through your nearest ESAB representative, see back cover. When ordering spare parts, please state machine type and number as well as designation and spare part number as shown in the spare parts list on page 151. This will simplify dispatch and ensure you get the right part.

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