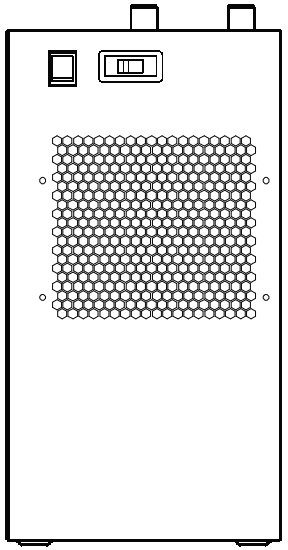

SR-2 – SR-30

refrigeration dryer

SULLAIR®

CE

272678

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Index

Safety warnings

Important:

- Keep this manual with the machine throughout its entire service life.
- Carefully read this manual before carrying out any operation on the machine.
- **This machine is designed for PROFESSIONAL USE only. Only use the machine for the purpose for which it is intended. Improper use of the machine absolves the manufacturer from all liability.**

This manual has been compiled to help the final user perform just those operations which do not require removal of the panels.

All other operations which involve the removal of covers from instruments or electrical circuit–breakers using special tools must only be carried out by trained personnel due to the danger of rotating parts or live components.

Each machine is equipped with an electric disconnect device which allows the operator to work on the machine in absolute safety. **This device must always be used to disconnect the mains supply to avoid any risk of danger during maintenance work (electric shocks, scalding, automatic start–up, moving parts and remote control).**

Before servicing the dryer always make sure the compressed air circuit is depressurised.

When requesting technical assistance or ordering spare parts, always quote the model and serial number on the identification plate mounted externally on the unit.

IMPORTANT: data contained in this publication is to be considered as indicative only. The manufacturer reserves the right to modify data without prior notice.

All figures to which the "see Fig." references in this text refer can be found at the end this manual. The language translations for these figures can be found in the Legend (A3–sized page) inserted after all the figures.

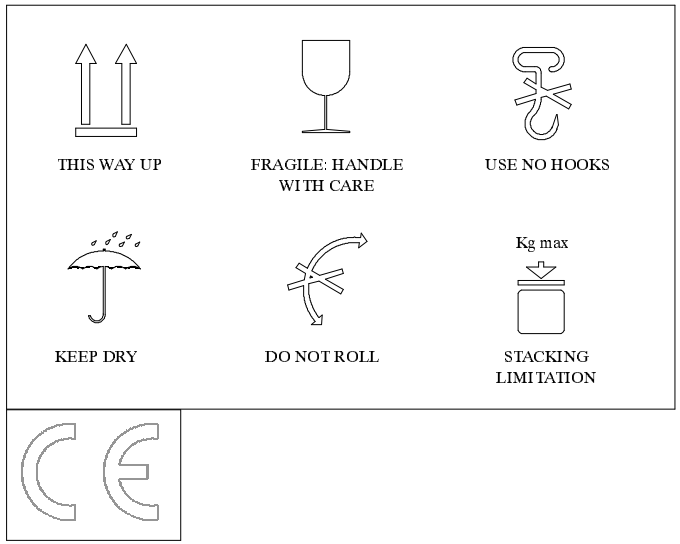
1 Introduction

1.1 Foreword

The ***SR*** dryers are designed to guarantee high quality compressed air and minimum maintenance.
Please carefully read this manual to obtain maximum performance from your dryer and ensure its correct installation and start – up in compliance with manufacturer instructions.

1.2 Packaging

The dryer is packaged with a strong cardboard box strapped to a wooden pallet.
Instruction symbols (UNI ISO 780) for the movement, transport and stocking of the product are printed on two sides of the packing.



1.3 Transport

- Keep the unit in an upright position and do not leave it outdoors.
- Use a forklift truck to move the machine.
- Care should be taken to avoid damaging internal components through poor handling during movement, installation or use.
- Unpack the machine as close as possible to the installation site.

1.4 Storage

If stored the packaged units must be kept inside, protected from humidity, direct sunlight and rain.
Moreover, although stacking is permitted the maximum weight must not be more than the value shown on the packaging.

1.5 Inspection

On receipt of the machine, make sure it has incurred no damage during transit.
If any damage is detected promptly contact the haulage company.

2 Installation

2.1 Dryer installation (see Fig. 1)

a) Do not install the dryer outdoors even if protected by a roof; do not install the device in rooms used for laundry operations. Never expose the dryer to temperatures below 5°C or above 50°C.

b) The compressed air inlet temperature must never exceed 60°C. For different temperatures to those indicated above, consult the manufacturer.

c) For most compressed air applications we recommend following the installation plan (see Fig. 1). This layout ensures optimum compressor, filter and dryer performance and also guarantees excellent air quality whilst minimising operating costs.

d) **Do not obstruct the dryer air grilles.**

e) Allow sufficient gap around the unit to facilitate maintenance and ensure unimpeded air discharge from the condenser.

f) Avoid recirculation of hot condenser air back into the condenser air inlet.

g) If the system is prone to instantaneous pressure surges which exceed the dryer's rated capacity, mount a suitably sized receiver near the overpressure source. For more precise information, contact the manufacturer or distributor.

h) **It is necessary to install a pre–filter (max. 3 micron) filter on the dryer intake to prevent rust, scale or other pollutants from entering the system and clogging the condensate drain and heat exchangers, thereby causing severe pressure drops.**
This filter must be close to the dryer inlet.

i) Always install a bypass line with shut–off valves (supplied as option) to permit maintenance or calibration without interrupting the compressed air flow to the user.

j) Correctly connect the dryer to the air inlet and outlet connections. If the compressed air network is prone to vibrations, use hoses to make the connections. If the mains is subject to high levels of pulsation, ensure that the connection is equipped with pulsation dampers.

k) Do not connect condensate drains common to other pressurised drain lines in a closed circuit. Make sure the outflow from the condensate drains is unimpeded. Connect the condensate piping in such a way to ensure that sound levels are kept to a minimum during drainage.
Ensure that all condensate is disposed of in a responsible manner, in accordance with local norms concerning environmental protection.

l) The ambient air around the dryer and compressor must not contain solid or gaseous contaminants. All compressed and condensed gases can generate acids or chemical products which may damage the compressor or components inside the dryer.
Take particular care with sulphur, ammonia, chlorine and installations in marine environments. For further advice or assistance consult the manufacturer.

2.2 Electrical connection (see Fig. 3 / Fig. 8)

The dryer is supplied with a 3 x 1 mm^2 power cable complete with plug.

2.3 Condensate drain

The dryer is supplied with an automatic condensate drain (see NO TAG).
If the dryer is fitted with an optional electronic condensate drain, please refer to the separate manual supplied with the dryer.

3 Start–up and operation

3.1 Preliminary checks

Before starting up the dryer, make sure that:

a) the air inlet valves are closed and there is no air flow through the dryer.

b) The mains power supply is commensurate with the dryer voltage.

c) The dryer is installed in compliance with the installation instructions given in Chapter 2.

3.2 Starting the dryer

a) Use the switch to start the dryer.

b) Always start up the dryer before activating the air compressor.

c) **Wait about 5 minutes until the dryer is running at the correct operating temperatures and pressures.**

d) **Slowly open the air inlet valve to pressurise the dryer.**

e) **Open the outlet valve. The dryer is now operating (drying).**

f) Always leave the dryer running while the air compressor is operating.

g)  After stopping the dryer wait at least 3 minutes before starting it again.

3.3 Stopping the dryer

a) Use the switch to stop the dryer.
b) Stop the dryer 2 minutes after shutting down the air compressor or interrupting the air flow to the dryer.

⚠ Compressed air must never enter the dryer when the dryer is switched off or when it is in an alarm situation which stops the refrigeration compressor.

3.4 Operation

- The dryer operates automatically. It is factory set for a dew point of +3°C (ISO 7183, Part 2) and therefore requires no further calibration.
- Do not exceed the machine's design limits, bypass excess air flow and check the unit model and/or installation.
- For maximum performance from your dryer, follow the maintenance schedule described in Chapter 4.
- The sound pressure level recorded for these dryers (at 1 metre from the machine in free field conditions) is less then 50 dB(A) (**models SR-2 – SR-6**), 55 dB(A) (**models SR-9 – SR-30**)

Fig. 4 shows the Dryer's refrigeration and air circuits.

4 Maintenance

⚠ Before accessing live electrical parts ⚠, disconnect the power supply to the dryer using disconnect switch QS or disconnect the cable connections.

SAFETY DEVICES
SK overload protector

COMPRESSOR TYPE
HERMETIC, PISTON (single phase)

4.1 Preventive maintenance

For optimum performance from your dryer follow the periodic maintenance schedule described below.

WEEKLY	**CONDENATE DRAIN** Verify that the condensate drain is draining correctly.
MONTHLY	**COMPRESSOR** Make sure the compressor head temperature is below 60°C when running. If this is not the case consult Chapter 7.
EVERY 4 MONTHS	**CONDENSER** Remove any dust from the condenser fins. **COMPRESSOR** Make sure compressor power consumption complies with data plate specifications.
YEARLY	**CONDENSATE DRAIN** Completely disassemble the drain and clean all its components.

4.2 Disassembling the unit

The machine has been designed and constructed to guarantee continuous operation. The long service life of some components such as the fan and compressor depends on good maintenance.
The unit must only be disassembled by a refrigerant specialist.
Refrigerant liquid and lubricating oil inside the refrigeration circuit must be recovered in compliance with current norms in the country where the machine is installed.

RECYCLING DISASSEMBLY	
frame and panels	steel/epoxy resin polyester
heat exchanger (cooler)	copper
pipes	copper
drainage system	polyamide
heat exchanger insulation	EPS (polystyrene sintered)
pipe insulation	gum synthetic
compressor	steel/copper/aluminium/oil
condensator	steel/copper/aluminium
refrigerant	R134a
valve	brass
electrical cable	copper/PVC

4.3 Refrigerant leaks in the refrigeration circuit

FOREWORD
The unit is delivered in perfect working order, already charged as specified in Fig. 3.
Refrigerant leaks may be identified by tripping of the compressor overload protector (SK).
IF A LEAK IS DETECTED IN THE REFRIGERANT CIRCUIT SEEK TECHNICAL ASSISTANCE.

4.4 Refrigerant charging (see Fig. 3)

THIS OPERATION MUST ONLY BE PERFORMED BY A REFRIGERANT SPECIALIST.
WHEN REPAIRING THE REFRIGERANT CIRCUIT, COLLECT ALL THE REFRIGERANT IN A CONTAINER AND DISPOSE OF IT IN THE APPROPRIATE MANNER.

Characteristics of refrigerant R134a
In normal temperature and pressure conditions the above refrigerant is a colourless, class A1/A1 gas with TVL value of 1000 ppm (ASHRAE classification).
If a refrigerant leak occurs thoroughly air the room before commencing work.

5 Calibration

The dryer is supplied factory set with the values shown in Fig. 5 and therefore requires no further calibration.

6 Spare parts list (see. Fig. 6)

This list contains the principal spare parts. When ordering spare parts always quote the quantity, part code and machine serial number.

7 Trouble shooting

The following diagram lists the various problems which may occur during the dryer's service life. In the case of serious difficulties however, contact a refrigerant specialist.
NOTE: Always bypass the dryer when it is out of service.