AIR-COOLED WATER CHILLER

WSAT-2

2.230-2.260-2.280-2.300 2.360-2.400-2.440-3.450-3.540-3.580-3.620-3.660-4.720

TROUBLESHOOTING

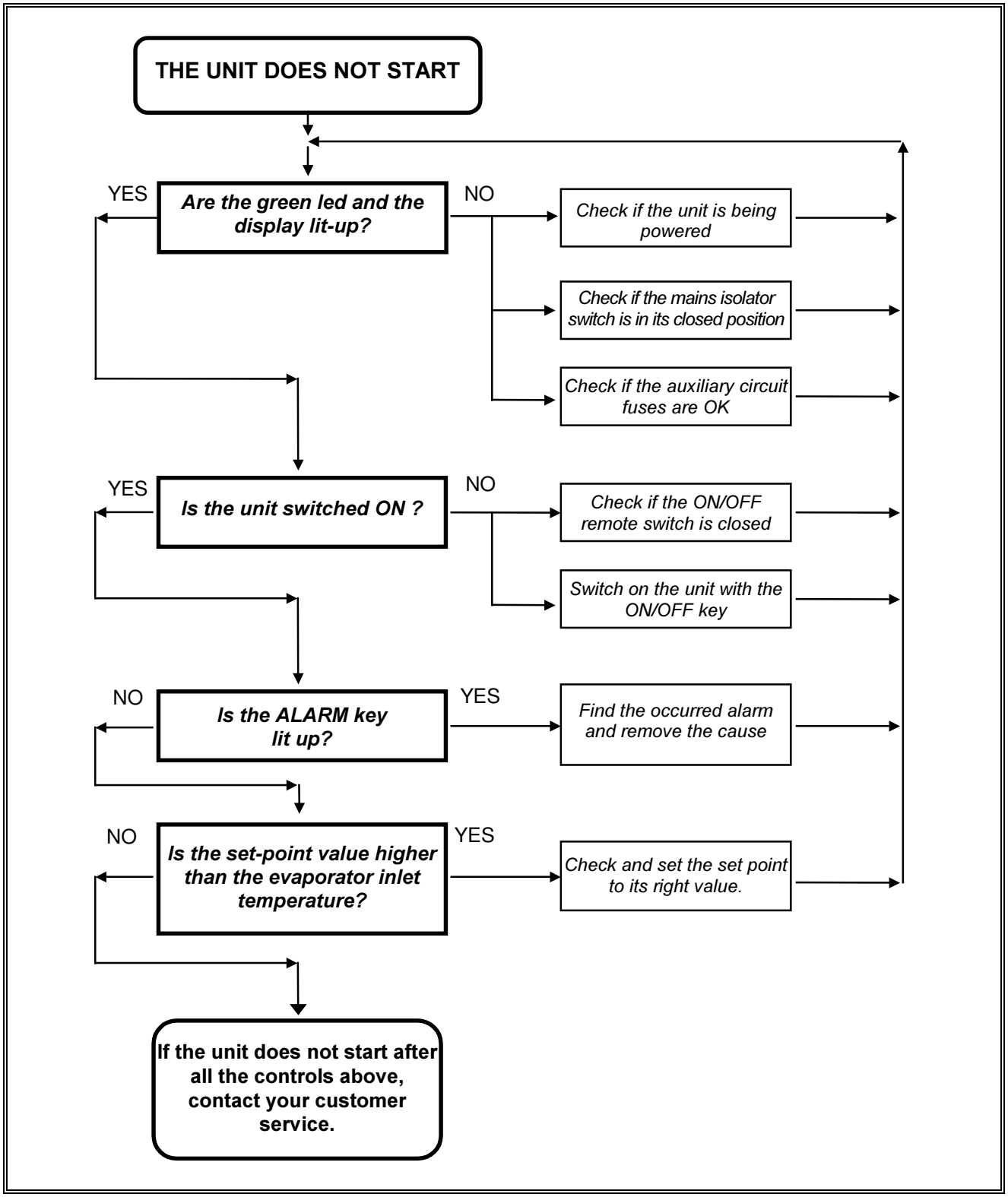
CONTENTS:

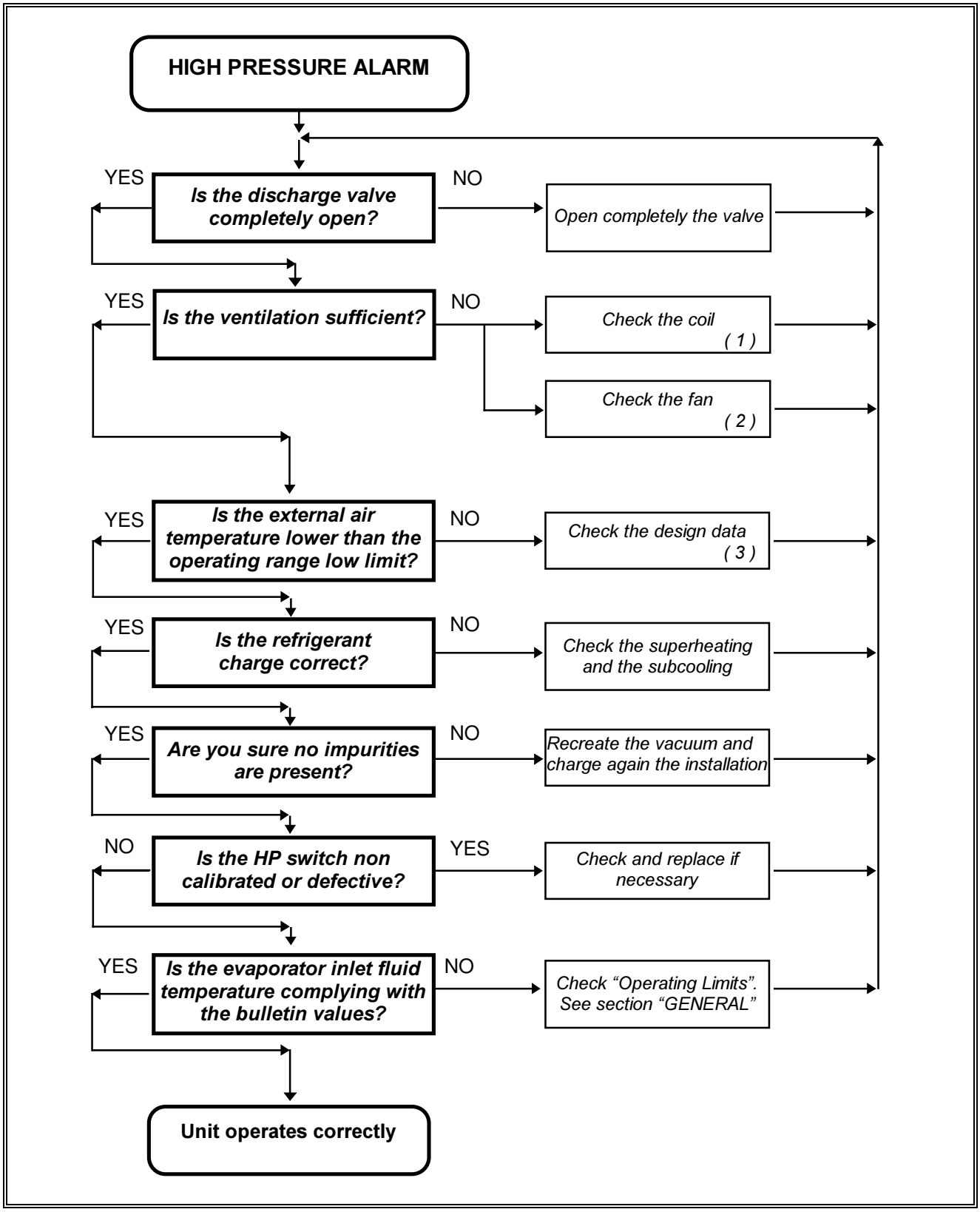
THE UNIT DOES NOT START
HIGH PRESSURE ALARM
LOW PRESSURE ALARM
COMPRESSOR FAILS TO START
COMPRESSOR NOISY OR VIBRATING
PROGRESSIVE LOSS OF OIL FROM THE COMPRESSOR

This section provides you with a comprehensive troubleshooting assistance although, naturally, it cannot cover every possible fault. When a safety device is tripped it indicates an operating fault has occurred. You should therefore always identify and eliminate the cause of this fault before resetting the chiller and starting it up again. You will find the vast majority of these problems and their related causes and solutions listed below.

WARNING

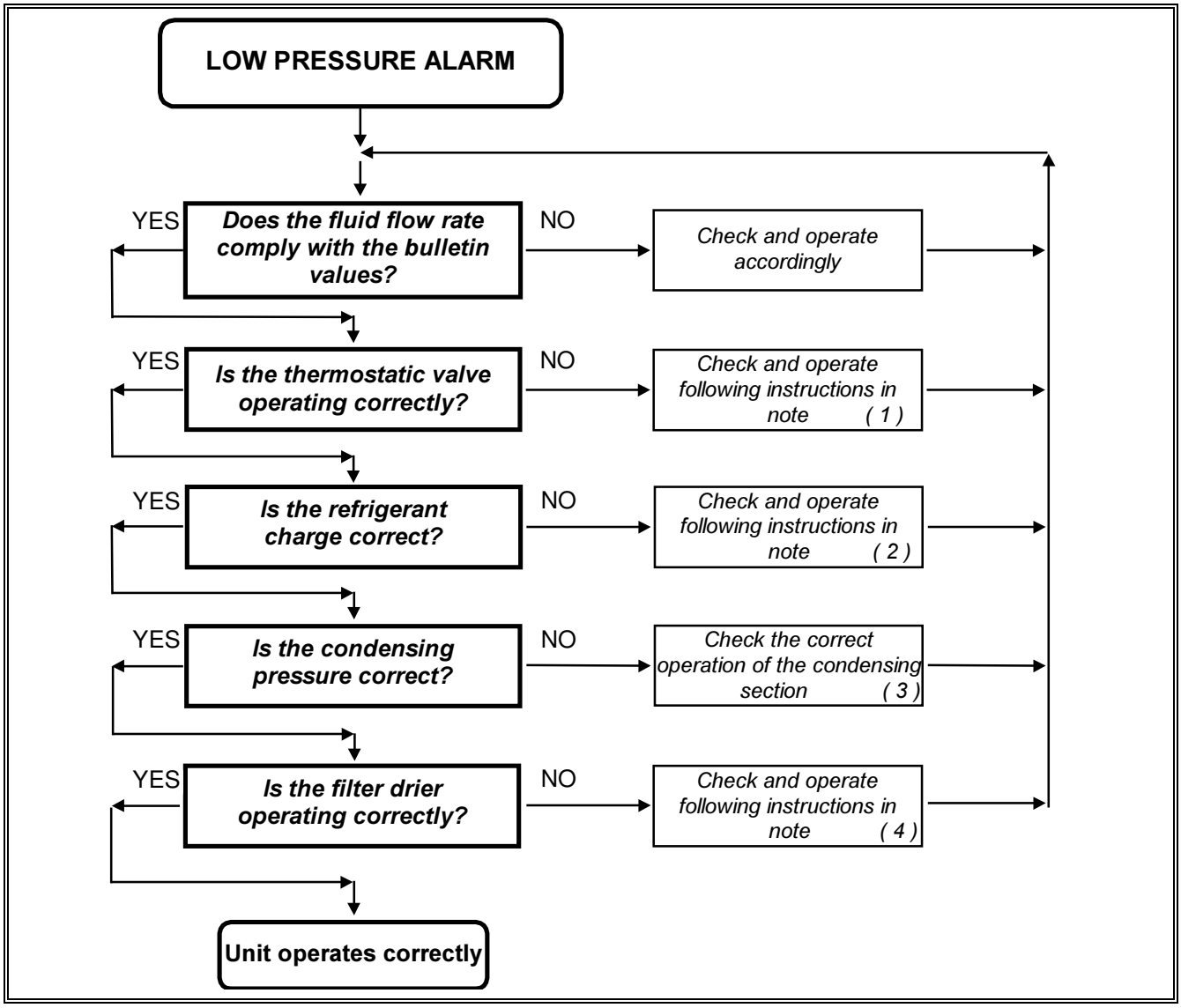
THE OPERATIONS DESCRIBED BELOW ARE ENTIRELY THE RESPONSIBILITY OF THE PERSON CARRYING THEM OUT. IT IS ESSENTIAL TO CONTACT AN AUTHORISED SERVICE CENTRE WITH THE NECESSARY EXPERTISE AND EQUIPMENT FOR ANY OPERATIONS REQUIRED TO RESTORE NORMAL OPERATING CONDITIONS.


THE UNIT DOES NOT START
YES
Are the green led and the display lit-up?
NO
Check if the unit is being powered
Check if the mains isolator switch is in its closed position
Check if the auxiliary circuit fuses are OK
YES
Is the unit switched ON ?
NO
Check if the ON/OFF remote switch is closed
Switch on the unit with the ON/OFF key
NO
Is the ALARM key lit up?
YES
Find the occurred alarm and remove the cause
NO
Is the set-point value higher than the evaporator inlet temperature?
YES
Check and set the set point to its right value.
If the unit does not start after all the controls above, contact your customer service.



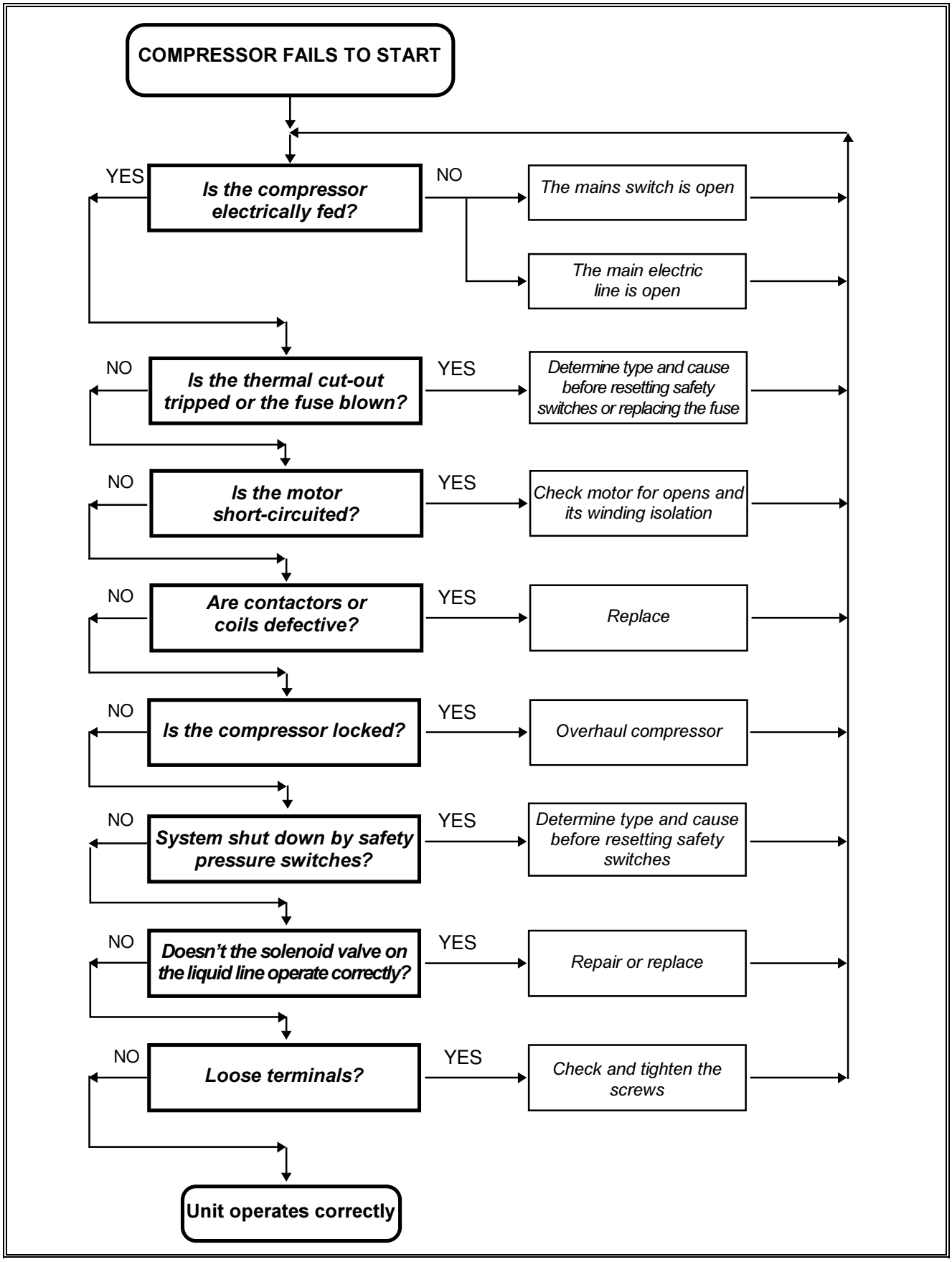
Note:

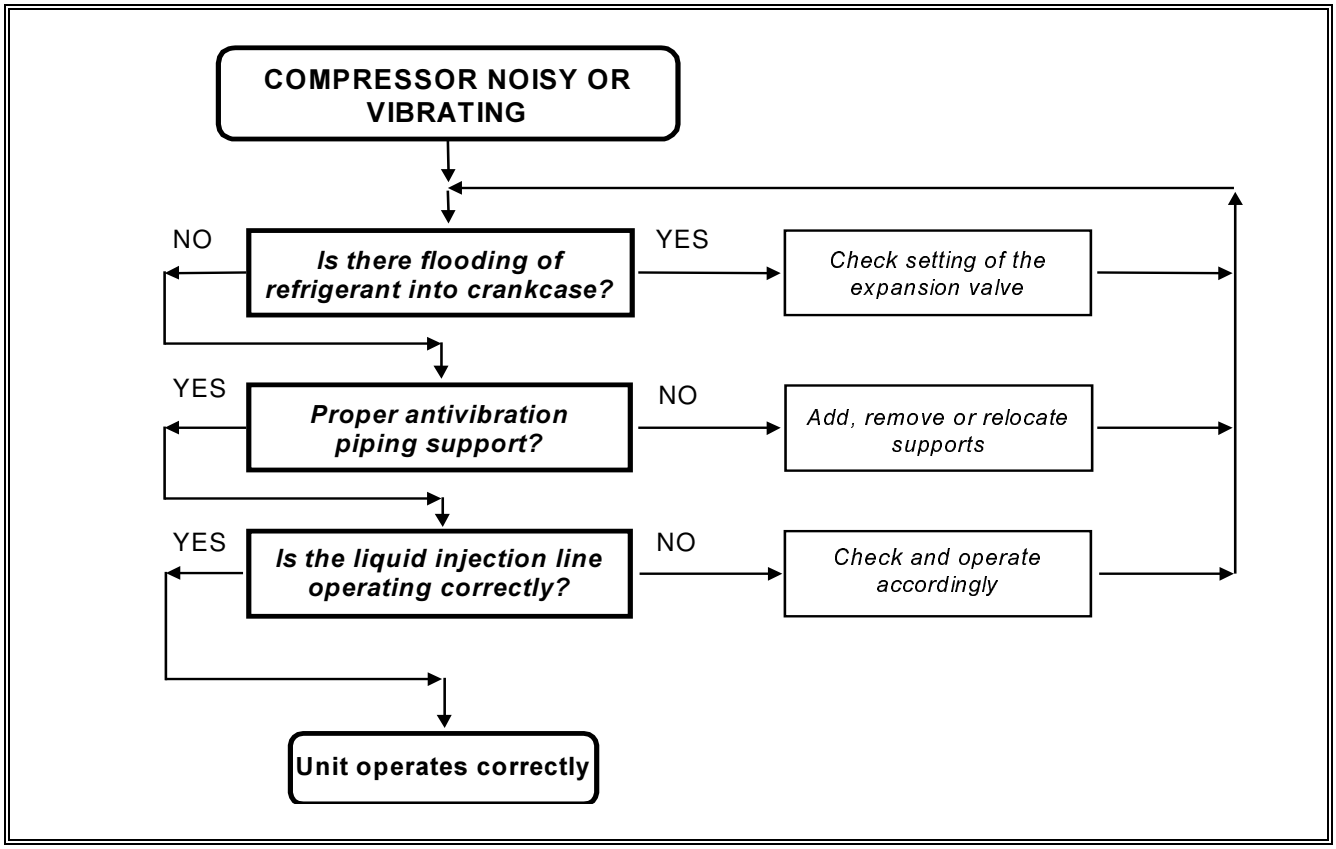
1) It is essential for the condenser coil to offer the maximum heat exchange. It must therefore be unobstructed by dirt, encrustations or other objects that could obstruct the air flow.
2) Check the fan condition. Replace if damaged.
3) Carry out all the following checks :
   - Check the operating limits (see the GENERAL section of this manual).
   - Make sure the coil is not exposed to direct sunlight or close to reflective surfaces.
   - Make sure there are no hot air flows of any kind in the immediate vicinity.
   - Make sure the same air is not being recycled.
4) A possible condition is one in which there is a very high condensing temperature (25-30 degrees above the ambient air temperature) together with poor cooling capacity. The symptoms are the same as with excessive refrigerant. If the charge is correct the presence of impurities can be the reason of this malfunctioning. Drain the refrigerant circuit carrying out again the vacuum and re-charge with refrigerant.

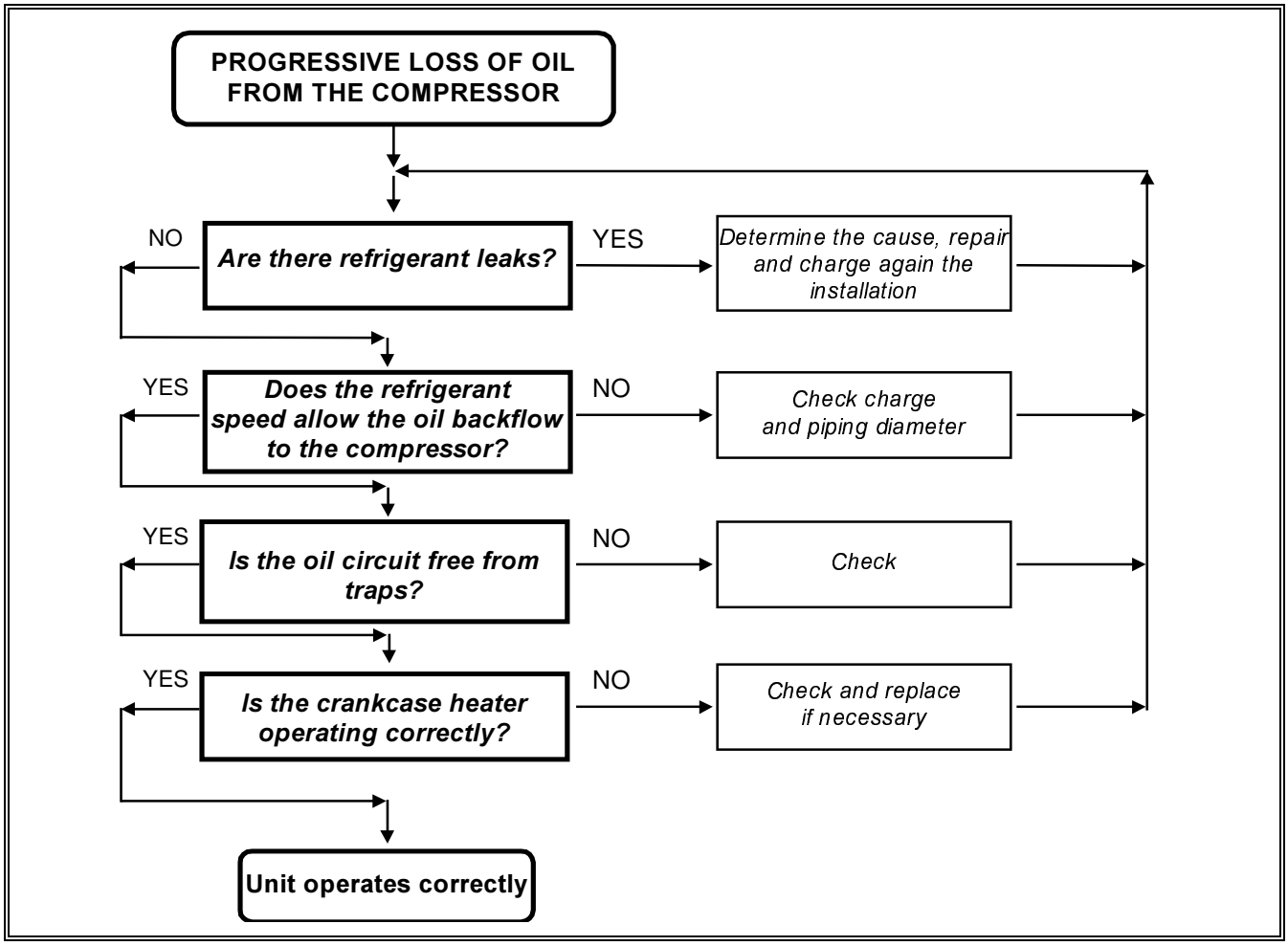


Note:

1) The overheating value measured on the intake line at the compressor must be between a minimum of 4K and a maximum of 7K and the sub-cooling value measured upstream of the thermostatic valve must be between a minimum of 3K and a maximum of 8K. Values outside these ranges indicate that the thermostatic valve setting is not optimal; take appropriate action.
2) An excessively low refrigerant level will trip the low pressure switch. Eliminate any leaks, bringing the circuit under pressure to locate them if necessary, carry out the emptying and filling operations.
3) If the condensing pressure is below 1200 kPa, the expansion valve could operate improperly causing a too low suction pressure.
   Check the correct ventilation of the external unit.
4) Measure the refrigerant temperature upstream and downstream of the filter using a thermometer with a contact sensor. Temperature differences of over 1°C indicate the filter is no longer effective and should be replaced.


COMPRESSOR FAILS TO START
YES
Is the compressor electrically fed?
NO
The mains switch is open
The main electric line is open
NO
Is the thermal cut-out tripped or the fuse blown?
YES
Determine type and cause before resetting safety switches or replacing the fuse
NO
Is the motor short-circuited?
YES
Check motor for opens and its winding isolation
NO
Are contactors or coils defective?
YES
Replace
NO
Is the compressor locked?
YES
Overhaul compressor
NO
System shut down by safety pressure switches?
YES
Determine type and cause before resetting safety switches
NO
Doesn't the solenoid valve on the liquid line operate correctly?
YES
Repair or replace
NO
Loose terminals?
YES
Check and tighten the screws
Unit operates correctly





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