## Copy and make a written translation of text 11 System Faults

## Text 11. System Faults

During operation a number of particular problems can occur which will affect the plant performance.

An overcharge or excess refrigerant in the system will be seen as a high condenser pressure. The refrigerant should be pumped to the condenser and the excess released from there. Air in the system will also show as a high condenser pressure. With the condenser liquid outlet closed the refrigerant charge should be pumped in and cooled. Releasing the purge valve will vent off the air which will have collected above the refrigerant.

Under-charge will show as a low compressor pressure and large bubbles in the liquid line sightglass. A leak test[[1]](#footnote-1) should then be carried out over the system to determine the fault and enable its rectification. A leak detector lamp for Freon refrigerants may be of the methylated spirit type[[2]](#footnote-2), but more commonly uses butane or ргораnе. The Freon is drawn into the flame and the flame will change colour, going from green to blue depending on the concentration of the gas.

When charging the system with more gas the main liquid valve should be closed and gas introduced before the regulating valve until the system is correctly charged. (It is possible to charge on the outlet side of the regulating valve and is quicker, but this requires a good amount of experience[[3]](#footnote-3) to prevent liquid carrying over and damaging the compressor.)

Moisture in the system may change to ice and close up the regulating valve, resulting in a drop in pressure on the evaporator side and a rise in pressure on the condenser side. The drier should be examined and the drying chemicals will probably require replacing. A correctly operating regulating valve will have frosting on the outlet side but not on the inlet side.

###### Words and phrases to remember

fault – дефект, неисправность

to release – сбрасывать, спускать

purge valve – клапан продувки

overcharge – избыточный заряд

under-charge – недостаточный заряд

sight glass – смотровое стекло

rectification – *зд.* исправление

flame – пламя, огонь

drier – влагоотделитель

drying chemicals – высушивающие химикаты

replacing – замена

frosting – обмерзание

moisture – влага

to close up – закупоривать, блокировать

**Exercises**

1. Make up proper chunks /collocations, using the words from columns A and B. Translate them.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A | B | chunk/collocation | +  - |
| 1. | a number | test |  |  |
| 2. | excess | sightglass |  |  |
| 3. | to enable | condenser pressure |  |  |
| 4. | a good amount | replacing |  |  |
| 5. | methylated | refrigerant |  |  |
| 6. | high | of the gas |  |  |
| 7. | to require | the system |  |  |
| 8. | to change | spirit type |  |  |
| 9. | purge | of the gas |  |  |
| 10. | drying | of particular problems |  |  |
| 11. | leak | colour |  |  |
| 12. | to charge | chemicals |  |  |
| 13. | liquid line | valve |  |  |
| 14. | concentration | of experience |  |  |
| 15. | to determine | rectification |  |  |

III. Give the words and word combinations with similar

meaning to the given ones and translate them:

Model: particular = specific - особый

performance, moisture, to occur, to affect, excess, to release, possible, fault, to examine, to dose up, flame, experience, to enable, a good amount of, to show.

IV. Give opposites to the following words and translate

them:

Model: to enable ǂ to prevent

дать возможность ǂ мешать, препятствовать.

under-charge, to vent off, above, evaporator side, concentration, frosting, outlet side, to collect, resulting in, rectification, commonly, rise, low pressure, ice, damage.

V. Fill in the necessary preposition to form proper

verb/word combinations. Make up some sentences of

your own, using them:

to be seen \_\_\_\_\_\_\_ a high condenser pressure; large bubbles \_\_\_\_\_\_\_the liquid line sightglass; to carry\_\_\_\_\_\_\_ a leak test; to be \_\_\_\_\_\_\_\_ the methylated spirit type; going\_\_\_\_\_\_\_green\_\_\_\_\_\_\_blue; to charge \_\_\_\_\_\_\_\_the outlet side; to close\_\_\_\_\_\_\_\_the regulating valve; depending\_\_\_\_\_\_\_ the concentration of the gas; to prevent liquid carrying\_\_\_\_\_\_\_; a good amount\_\_\_\_\_\_\_\_ experience;

VII. Put the words in the correct order to make a sentence.

1. The/ number/ particular/ may/ plant/ a/ problems/ of/ performance/ affect.
2. Excess/ be / in/ will/ seen/ system/ on/ how/ refrigerant/ the?
3. Fault/ out/ the/ a/ test/ to/ system/ the/ determine/ is/ over/ carried/ leak.
4. Type/ Freon/ is/ what/ for/ refrigerants/ a/ lamp/ leak/ detector?
5. Should/ system/ more/ be/ when/ closed/ with/ the/ what/ charging/ with?
6. Replacing/ drying/ will/ the/ require/ chemicals/ probably.
7. Have/ a/ where/ frosting/ correctly/ valve/ will/ operating/ regulating?
8. Air/ the/ will/ releasing/ purge/ off/ collected/ valve/ the/ vent.

1. a leak test – испытание на герметичность [↑](#footnote-ref-1)
2. of the methylated spirit type – денатурат [↑](#footnote-ref-2)
3. a good amount of experience – большой опыт [↑](#footnote-ref-3)