

We want our customers to be able to rely on our coolers. This is precisely why we developed an after-sales concept that covers the areas of leak tests, maintenance, warranty extensions as well as LIM (Lahntechnik Information Monitoring) and remote maintenance.

Everything to ensure the longevity of your systems!

## 1. Leak tests - Obligations for operators of refrigeration systems

Refrigeration units often contain greenhouse gases that mustn't be released into the atmosphere. The EU Regulation 517/2014 on fluorinated greenhouse gases is authoritative for us in this respect. As a manufacturer of refrigeration systems, this regulation obliges the operators to have regular leak tests carried out by specialists. There is a legal obligation to keep documentation, and the corresponding operating manuals are subject to a retention obligation of 5 years.

Our service team will of course also take care of these tasks.

A few more pieces of technical information for you: The new version of the F Gas Regulation no longer refers directly to the refrigerant charge when classifying the periodic leakage checks. The groups are classified according to the mass of  $CO_2$  equivalents. The  $CO_2$  equivalent of a refrigerant is calculated by multiplying the charge by the GWP (Global Warming Potential). The GWP refers to the global warming potential of a greenhouse gas in relation to carbon dioxide ( $CO_2$ ).

For example: 1 kg R134a has a CO2 equivalent of 1.43 t. 1 kg R404A has a CO2 equivalent of 3.92 t.

| Filling quantity CO <sub>2</sub> equivalent | Frequency without leakage detection sys- | Frequency with leakage detection system |  |  |
|---|--|---|--|--|
| -   | tem                                      |   |  |  |
| a) From 5 and under 50 tonnes               | Every 12 months                          | Every 24 months                         |  |  |
| b) From 50 and under 500 tonnes             | Every 6 months                           | Every 12 months                         |  |  |
| c) From 500 tonnes                          | Every 3 months                           | Every 6 months                          |  |  |

Information on the necessity of a leak test can be found on the type plate under CO2 equivalent and in the unit's operating instructions.

Type plate example

| LAF   | INT   | FECH   | NI                         | K°                      |        |  |
|---|-------|--|----------------------------|-------------------------|--------|--|
| Bezeichnung / identification / désignation  |       |  |                            |                         |        |  |
| Typ / type / modéle   |       |  |                            | EL 215-09               |        |  |
| Seriennummer / serial number / numéro de série  |       |  | E-xxxxx                    |                         |        |  |
| Tankvolumen / tank capacity / capacité du réservoir   |       |  | ~ 185 L                    |                         | 1      |  |
| Baujahr / year of construct   | 2022  |  |                            |                         |        |  |
| Nennspannung / nominal voltage /<br>tension nominale  |       |  | 400V<br>+-10% /<br>3~ / PE |                         |        |  |
| Nennfrequenz / nominal frequency /<br>fréquence nominale  |       |  | 50 Hz                      |                         |        |  |
| Nennstromaufnahme / nom. current / courant nominale   |       |  |                            | 24,3 A                  |        |  |
| Nennleistungsaufnahme / nom. power input /<br>puissance absorbée nominale   |       |  | 13,1 kW                    |                         |        |  |
| Sicherung / fuse / fusible  |       |  | 32 A                       |                         | 1      |  |
| Steuersp. / control voltage / courant de commande   |       |  | 24V DC                     |                         | 1      |  |
| Schutzart / degree of protection / degré de protection  |       |  |                            | IP 54                   |        |  |
| Nennkühlleistung / nominal cooling capacity /<br>puissance frigorifique nominale  |       |  | 20,0 kW                    |                         |        |  |
| Kältemittelmenge<br>refrigerant quantity<br>quantité de réfrigérant   | CO,   | - Äquivalent<br>- equivalent<br>- équivalent |                            | R 134a<br>4,0 kg        | 5,72 t |  |
| max. Betriebsüberdruck Kältekreis PS<br>max. operating pressure refrigeration circuit PS<br>surpression max. du circuit de réfrigération PS |       | HD   | 23 bar                     |                         |        |  |
|   |       | ND   | 17 bar                     |                         |        |  |
| Primäres Kühlwasser / primary cooling water /<br>l'eau de refroidissement primaire  |       |  | $\bigwedge$                |                         |        |  |
| P <sub>max.:</sub>  |       | bar  | 1                          | 2                       |        |  |
| ΔP:   | P:    |  | Le                         | ergewicht<br>pty weight |        |  |
| v:  | I/min |  | fare<br>380 kg             |                         |        |  |

# 2. Maintenance

Saving on maintenance means underperformance and jeopardizing the stability of production. This is exactly what LT servises maintenance concepts are designed for.

#### Scope of services for maintenance in accordance with the German Engineering Federation (VDMA)

- Visual inspection
- Leakage checks of the refrigeration system(s) according to Regulation (EU) No 517/2014
- Check of the entire refrigeration circuit and temperature measurements
- Check of the functions of all switching and control components including electrical connections
- Check of the current consumption of the main components
- Testing of the medium circuit

#### **Maintenance documentation**

- Maintenance report
- Measurement records
- Recommendations for preventative actions to avert failures

#### This is all you have to do:

Take a photo of the type plate and send it together with a short description of your issue to our service team using the mail address: service@lahntechnik.de

We will send you your individual maintenance quotation shortly afterwards and contact you personally to arrange an appointment.

#### **Maintenance contracts**

We'll do the work for you!

With our maintenance contracts, you don't have to worry about your equipment being looked after: our experts will contact you regularly and in good time to arrange an appointment! During these meetings, you will also learn all about the preferential rates and discounts on inset parts.

The most important thing, however, is that preventive maintenance extends the service life of your system!

At a glance – the advantages of a Lahntechnik maintenance contract:



With the Lahntechnik warranty extension!

- You can purchase the warranty extension when ordering new machines.
- They are valid from the date of acceptance of the cooler, but no later than 3 months after delivery. It also applies to coolers that are already in use, if regular maintenance and leak tests can be documented by the operating manual.
- Excluded, of course, are damages caused by improper handling, and maintenance and wear parts and operating materials.

## Guaranteed safe - safety guaranteed

The warranty extension period can be selected according to your needs. If you have any queries at all, our service team will be happy to help and advise you. So get in touch with us and benefit from the maximum operational safety of your cooler!

Simply fill out the contact form and your contact person will get back to you shortly!

| Name         | E-mail       |
|--------------|--------------|
| Phone        | Company      |
| Street       | House number |
| Your message |              |



## 4. LIM and remote maintenance – truly up to speed!

LIM – Lahntechnik Information Monitoring is our system that allows us to retrieve the real-time data of your cooler. For the safety of your systems, it ensures optimum operation, using VPN tunnels and offering a high level of cyber security. The LIM enables you to control all relevant parameters from your computer, tablet or smartphone. This means that potential for optimisation can be quickly identified!

Remote maintenance is based on a remote diagnosis that can be carried out at short notice by our service team at any time via a gateway. Faults are detected quickly and can be rectified just as fast. All for the best machine availability – and not least in terms of cost efficiency! The LIM is definitely the best solution!

The remote maintenance packages are always tailored to your individual and specific needs with maximum transparency!