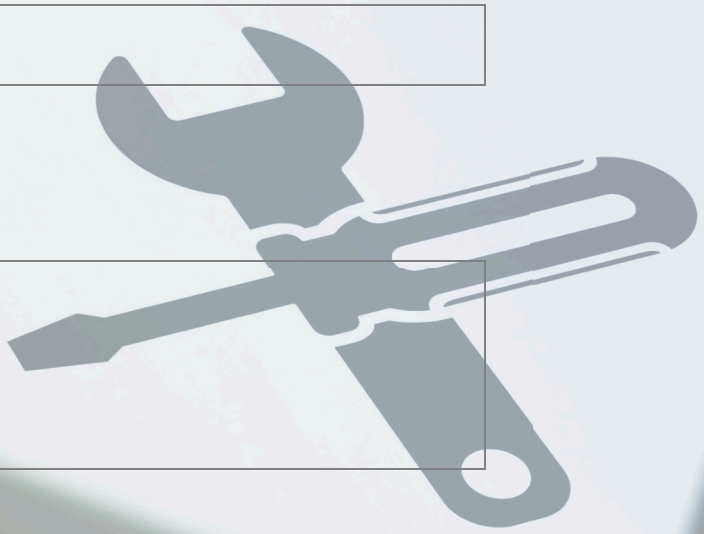
Log book for refrigerating units

according to
Regulation (EC) No. 2024/573 (F-Gas Regulation),
Regulation (EC) No. 2024/590 (on substances that deplete the ozone layer),
EN 378-4 Section 4.3 Operation/maintenance
EN 378-2 (04/2018) Art. 6.4.3.5,
Regulation (EC) 2015/2067 (Expertise),
Regulation (EC) 1516/2007 (Leak test)

System / unit designation:

System / unit number:

Inventory number:



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Erklärung zur Bekämpfung des illegalen Handels mit fluorierten Treibhausgasen (Drittes Gesetz zur Änderung des Chemikalienrechts)

Declaration on combating the illegal trade in fluorinated greenhouse gases (Third Act amending the chemicals legislation)

Bis 2030 wollen die EU-Mitgliedsstaaten den Verbrauch klimaschädlicher teilfluorierter Kohlenwasserstoffe (HFKW) um rund 80 Prozent senken. Allerdings konnte durch die bisherigen Regelungen ein illegaler Handel mit den so genannten F-Gasen nicht vollends verhindert werden. Daher hat die Bundesregierung heute eine entsprechende Änderung des Chemikaliengesetzes beschlossen. Seit August 2021 ist es in Deutschland verboten, illegal in die EU eingeführte HFKW zu erwerben oder weiterzuverkaufen. Um die Kontrolle durch Behörden und Marktteilnehmer zu erleichtern, müssen Informationen über Hersteller und Importeure von HFKW sowie Angaben über die Legalität der eingeführten Ware in der Lieferkette weitergegeben werden. F-Gase werden als Kältemittel in Kälte- und Klimaanlagen, als Treibgas in Sprays, als Treibmittel in Schäumen und Dämmstoffen sowie als Feuerlöschmittel eingesetzt.

Weiss Technik bestätigt Ihnen hiermit, dass es sich bei den Verwendeten teilfluorierten Kohlenwasserstoffen (HFKWs) in unseren Produkten, die in der Europäischen Union vertrieben werden, ausnahmslos um quotiertes Kältemittel im Sinne der Verordnung (EU) Nr. 2024/573 handelt. Weiss Technik GmbH ist im Besitz einer eigenen Quote. Diese wird von der EU innerhalb des sogenannten F-Gas-Portals vergeben und überwacht. Wenn Sie von uns ein Produkt erwerben, kann dies Kältemittel aus zwei verschiedenen Importvorgängen enthalten. Zum einen kann dies über unsere eigene Quote vorbefüllt in den Anlagen importiert worden sein. Zum anderen können Kältemittel enthalten sein, welche bereits von unserem Lieferanten quotiert importiert wurden. Da die Kältemittellieferanten aktuell nicht in der Lage sind chargenrein zu liefern, kann nicht genau ausgewiesen werden welcher Anteil auf welchen Importvorgang zurückzuführen ist. Dies ist aus unserer Sicht nicht zwingend erforderlich, da sowohl unsere Lieferanten als auch wir als Weiss Technik über EU-Quote verfügen. Weiss Technik kann dies mit entsprechenden Importdokumenten belegen. Das Reporting inklusive dem Dokumentenmanagement wird einmal jährlich von einer unabhängigen Stelle auditiert. Von unseren Lieferanten liegen entsprechende Erklärungen vor, die jederzeit angefordert werden können.

The EU member states want to reduce the consumption of climate-damaging hydrofluorocarbons (HFCs) by around 80 percent by 2030. However, previous regulations have not been able to completely prevent illegal trade in the so-called F-gases. The German government has therefore decided today to amend the Chemicals Act accordingly. Since August 2021, it has been illegal in Germany to purchase or resell HFCs illegally imported into the EU. In order to facilitate monitoring by authorities and market participants, information on manufacturers and importers of HFCs as well as details on the legality of the imported goods in the supply chain must be passed on. F-gases are used as refrigerants in refrigeration and air conditioning systems, as propellants in sprays, as blowing agents in foams and insulating materials and as fire extinguishing agents.

Weiss Technik hereby confirms that the partially fluorinated hydrocarbons (HFCs) used in our products sold in the European Union are, without exception, quoted refrigerants within the meaning of Regulation (EU) No. 2024/573. Weiss Technik GmbH is in possession of its own quota. This is issued and monitored by the EU within the so-called F-gas portal. If you purchase a product from us, it may contain refrigerants from two different import processes. On the one hand, it may have been imported into the systems pre-filled via our own quota. On the other hand, it may contain refrigerants that have already been imported with quotas from our suppliers. As the refrigerant suppliers are currently unable to deliver in batches, it is not possible to show exactly which proportion is attributable to which import process. In our view, this is not absolutely necessary, as both our suppliers and we at Weiss Technik have EU quotas. Weiss Technik can prove this with corresponding import documents. Reporting, including document management, is audited once a year by an independent body. Corresponding declarations are available from our suppliers and can be requested at any time.

ppa. Jens Schulze (Global Director QEHS & Compliance)

Dr. Daniel Allendorf (Managing Director)

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1 LEGAL PRINCIPLES

Operators of refrigeration, air conditioning and heat pump systems with a refrigerant charge of more than 3 kg are required to keep a system logbook in accordance with **EN 378-4** (Refrigeration and heat pumps), **section 4.3**. This must include details of all maintenance and repair work, the quantity and type of refrigerant charged or discharged, the origin of reclaimed refrigerant, component modifications and replacements, the results of all routine checks and extended downtime.

If fluorinated greenhouse gases are used as refrigerants in quantities of 5 tonnes of CO_2 equivalent or more, the operator also has special obligations to protect the environment in accordance with **Regulation (EU) 2024/573 (F-Gas Regulation), Art. 4 to 6**. In addition to the requirement to check the system for leaks at specified intervals based on refrigerant charge, records of refrigerant charge and leak tests performed must be maintained. These records shall be made available to the competent authority on request.

Regulation (EU) 1005/2009 on substances that deplete the ozone layer, Article 23, also requires regular leak checks for systems containing controlled substances, as well as records of the quantity and type of substances refilled and all relevant information on maintenance, including maintenance personnel.

The supplementary regulation on the ozone layer in the **chemical industry specifies the obligation** to keep records in such a way that this operating manual must be kept for at least 5 years and non-compliance is an administrative offence punishable by heavy fines. It also specifies minimum requirements for maintenance personnel. Similar rules are laid down in the **Chemicals Climate Protection Ordinance**, which supplements the F-Gas Ordinance.

This operating manual provides the operator with assistance in fulfilling these recording obligations. The basic technical data, any intervention in the refrigerant circuit and any repair, maintenance, leak detection and leak test to be carried out by qualified personnel in accordance with **Regulation (EC) 1516/2007** and **Implementing Regulation 2015/2067** are recorded. This creates a complete documentation of the history of the system.

Before carrying out leak checks or any other work on the refrigeration system, these records must be consulted so that any problems that have arisen in the past can be taken into account. All work must always be carried out in accordance with the current state of the art.

The aforementioned regulations can be found at www.eur-lex.europa.eu.

2 REFRIGERANT

2.1 Properties and safety instructions

The refrigerants belong to group A1 according to EN 378-1. They are not flammable and are not significantly harmful to the health of humans. Refrigerants are heavier than air and can accumulate on the ground in the event of a leak or refrigerant spill.

DANGER

Danger to life due to leaking refrigerant

Leaking refrigerant is barely perceptible due to its odour. Inhalation of high concentrations of refrigerant may cause cardiac sensitisation due to adrenaline. This can lead to cardiac arrhythmia culminating in cardiac arrest.

- The machinery rooms must be vented in accordance with EN 378.
- Provide on-site refrigerant detection.

WARNING

Risk of injury due to escaping refrigerant

Liquid refrigerant causes frostbite on the skin and in the eyes.

- In case of leaks, protect hands and eyes with gloves and safety goggles.

WARNING

Risk of burns due to decomposition of the refrigerant

Open flames or very hot surfaces can cause the refrigerant to decompose and form very toxic gases (hydrogen chloride, hydrogen fluoride, phosgene).

- Smoking and naked flames are prohibited.

2.2 Operation with the refrigerant R744/CO_2 (carbon dioxide)

DANGER

Risk of suffocation due to leaking refrigerant

The refrigerant is colourless and odourless and cannot be detected if it escapes. Inhalation in high concentrations can lead to unconsciousness and suffocation.

- The machinery rooms must be vented in accordance with EN 378.
- Provide on-site refrigerant detection.

The high pressure level of CO_2 poses a hazard and must be taken into account.

Observe safety data sheets and operating instructions in accordance with the Hazardous Substances Ordinance!

3 OPERATOR

Company / Name	
Contact person	
Street, house no.	
Postal code, city	
Country	

4 INSTALLATION SITE

Company / Name	
Street, house no.	
Postal code, city	
Country	

5 ASSEMBLER OF SYSTEM

Company / Name	
Street, house no.	
Postal code, city	
Country	
Certification number	

6 SERVICE CENTRE

Company / Name	
Contact person	
Street, house no.	
Postal code, city	
Country	
Certification number	

7 REFRIGERANT DATA

Refrigerant	GWP	Group	Formula and composition
R744[a] (CO_2)	1	a1	CO_2
R-469A (WT69)	1357	a1	CH_2F_2 32.5% CHF_2CF_3 32.5% CO_2 35%
R-449A	1397	a1	$C_2H_2F_4$ 21.97% $C_3H_2F_4$ 19.35% C_2HF_5 17.95% CH_2F_2 40.737%
R-134a	1430	a1	CH_2FCF_3
R-407F	1824	a1	CH_2F_2 30% C_2HF_5 30% CH_2FCF_3 40%
R-452A	2141	a1	CH_2F_2 21.89% $C_3H_2F_4$ 27.23% C_2HF_5 50.88%
R-507	3990	a1	CH_3CF_3 50% CHF_2CF_3 50%
R 23	14800	a1	CHF_3
R-513A	631	a1	$C_2H_2F_4$ 46.76% $C_3H_2F_4$ 53.24%

a. The F-Gas Regulation does not apply to R744 (CO_2). The leak test must be conducted according to the specifications in EN 378-4 Appendix D.

8 ANNUAL ALLOWABLE SPECIFIC REFRIGERANT LOSS OF F-GASES

The maximum allowable refrigerant loss according to ChemKlimaSchutzV depends on the installation date of the system, the system type and the refrigerant charge.

Fill quantity / Type of unit	Date unit installed		
	Before the 01/07/2005	**between 01/07/ 2005 and 30/06/2008**	**after the 03/06/2008**
Refrigeration units with fill quantities of at least 3 kg	1 %	1 %	1 %
Application set up at the location with refrigerant fill quantity of less than 10 kg	8 %	6 %	3 %
Application set up at the location with refrigerant fill quantity from 10 to 100 kg	6 %	4 %	2 %
Application set up at the location with refrigerant fill quantity of more than 100 kg	4 %	2 %	1 %
Valid since	01/07/2011	01/07/2011	01/08/2008

9 SYSTEM DATA

Model			
Device number			
Year manufactured			
Startup			
Refrigerant circuits	1	2	3
Present yes / no			
Refrigerant type			
Charge weight in kg			
Permissible specific refrigerant loss in %			
GWP refrigerant			
CO_2 equivalent in t: $\frac{\text{Fill quantity [kg] x } GW_{refrigerant}}{1000}$			

Requisite test interval for systems ≥ 5 t CO_2equivalent (according to Regulation (EC) 2024/573) without leak detection system			
Annually 5 - 50 t CO_2 equivalent			
Biannually ≥ 50 - 500 t CO_2 equivalent			
Quarterly ≥ 500 t CO_2 equivalent			
Requisite test interval for systems ≥ 5 t CO_2equivalent (according to Regulation (EC) 2024/573) with leak detection system			
Every 2 years 5 - 50 t CO_2 equivalent			
Annually ≥ 50 - 500 t CO_2 equivalent			
Biannually ≥ 500 t CO_2 equivalent			

Requisite test interval for systems < 5 t CO_2 equivalent (according to EN 378-4 Appendix D)			
Annually for fill quantity ≥ 3 kg			
Biannually for fill quantity ≥ 30 kg			
Quarterly for fill quantity ≥ 300 kg			

10 REFRIGERANT CIRCUIT 1 - LEAK TESTS

Date of test	Tightness requirement		Qualified personnel / Certification number	Specific refrigerant loss kg per test	Specific refrigerant loss in % per year
	met	not met			

Date of test	Tightness requirement		Qualified personnel / Certification number	Specific refrigerant loss kg per test	Specific refrigerant loss in % per year
	met	not met			

11 REFRIGERANT CIRCUIT 2 - LEAK TESTS

Date of test	Tightness requirement		Qualified personnel / Certification number	Specific refrigerant loss kg per test	Specific refrigerant loss in % per year
	met	not met			

Date of test	Tightness requirement		Qualified personnel / Certification number	Specific refrigerant loss kg per test	Specific refrigerant loss in % per year
	met	not met			

12 REFRIGERANT CIRCUIT 3 - LEAK TESTS

Date of test	Tightness requirement		Qualified personnel / Certification number	Specific refrigerant loss kg per test	Specific refrigerant loss in % per year
	met	not met			

Date of test	Tightness requirement		Qualified personnel / Certification number	Specific refrigerant loss kg per test	Specific refrigerant loss in % per year
	met	not met			

13 MAINTENANCE / REPAIR

Date	Report	Qualified personnel

14 PROCESSING AND DISPOSAL OF THE REFRIGERANT / OIL

Date	Refrigerant circuit	Refrigerant / oil	Type of refrigerant / oil 1 = new 2 = recycled 3 = reclaimed	filled quantity	quantity disposed of	Report	Qualified personnel / Certification number

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