

# AL-KO

QUALITY FOR LIFE



VENTILATION AND AIR CONDITIONING UNITS

## Logbook for refrigerating systems

according to regulation (EU) Nr.517/2014

ВЕНТИЛЯЦИОННЫЕ УСТАНОВКИ И СТАНЦИИ КОНДИЦИОНИРОВАНИЯ ВОЗДУХА

## ЭКСПЛУАТАЦИОННЫЙ ЖУРНАЛ ДЛЯ ХОЛОДИЛЬНЫХ УСТАНОВОК

согласно постановлению (ЕС) № 517/2014



340 0360 | 03/ 2021

## Legal

AL-KO THERM GMBH  
Hauptstraße 248 - 250  
89343 Jettingen-Scheppach  
Germany  
Fon: +49 8225 39 - 0  
E-Mail: klima.technik@al-ko.com

## Выходные данные

AL-KO THERM GMBH  
Hauptstraße 248 - 250  
D-89343 Jettingen-Scheppach  
Deutschland (Германия)  
Тел.: +49 8225 39 - 0  
Адрес эл. почты: klima.technik@al-ko.com

## Revision history

Version	Description	Date
1.0	Initial release	16/03/2021

## Подтверждение изменений

Версия	Описание	Дата
1.0	Обновлено	16.03.2021

**REGULATION (EU) No 517/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL  
of 16 April 2014 on fluorinated greenhouse gases and repealing Regulation (EC) No 842/2006**

(Excerpt from the Official Journal of the European Union, L150)

**Article 3****Prevention of emissions of fluorinated greenhouse gases**

- (1) The intentional release of fluorinated greenhouse gases into the atmosphere shall be prohibited where the release is not technically necessary for the intended use.
- (2) Operators of equipment that contains fluorinated greenhouse gases shall take precautions to prevent the unintentional release ('leakage') of those gases. They shall take all measures which are technically and economically feasible to minimise leakage of fluorinated greenhouse gases.
- (3) Where a leakage of fluorinated greenhouse gases is detected, the operators shall ensure that the equipment is repaired without undue delay. Where the equipment is subject to leak checks under Article 4 paragraph 1, and a leak in the equipment has been repaired, the operators shall ensure that the equipment is checked by a certified natural person within one month after the repair to verify that the repair has been effective.
- (4) Natural persons carrying out the tasks referred to in points a to c of Article 10 paragraph 1 shall be certified in accordance with Article 10 paragraph 4 and 7 and shall take precautionary measures to prevent leakage of fluorinated greenhouse gases.

Undertakings carrying out the installation, servicing, maintenance, repair or decommissioning of the equipment listed in points a to d of the Article 4 paragraph 2 shall be certified in accordance with Article 10 paragraph 6 and 7 and shall take precautionary measures to prevent leakage of fluorinated greenhouse gases.

**Article 4****Leak checks**

- (1) Operators of equipment that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO<sub>2</sub> equivalent or more and not contained in foams shall ensure that the equipment is checked for leaks.

Hermetically sealed equipment that contains fluorinated greenhouse gases in quantities of less than 10 tonnes of CO<sub>2</sub> equivalent, shall not be subject to leak checks under this Article, provided the equipment is labelled as hermetically sealed.

Electrical switchgear shall not be subject to leak checks under this Article provided it complies with one of the following conditions:

- a) it has a tested leakage rate of less than 0,1 % per year as set out in the technical specification of the manufacturer and is labelled accordingly;
- b) it is equipped with a pressure or density monitoring device; or
- c) it contains less than 6 kg of fluorinated greenhouse gases.

- (2) Paragraph 1 applies to operators of the following equipment that contains fluorinated greenhouse gases:

- a) stationary refrigeration equipment;
- b) stationary air-conditioning equipment;
- c) stationary heat pumps;
- d) stationary fire protection equipment;
- e) refrigeration units of refrigerated trucks and trailers;
- f) electrical switchgear;
- g) organic Rankine cycles.

As regards the equipment referred to in points a to e of the first subparagraph, the checks shall be carried out by natural persons certified in accordance with the rules provided for in Article 10.

By way of derogation from the first subparagraph of paragraph 1, until 31 December 2016, equipment that contains less than 3 kg of fluorinated greenhouse gases or hermetically sealed equipment, which is labelled accordingly and contains less than 6 kg of fluorinated greenhouse gases shall not be subject to leak checks.

- (3) The leak checks pursuant to paragraph 1 shall be carried out with the following frequency:
- for equipment that contains fluorinated greenhouse gases in quantities of 5 tonnes of CO<sub>2</sub> equivalent or more, but of less than 50 tonnes of CO<sub>2</sub> equivalent: at least every 12 months; or where a leakage detection system is installed, at least every 24 months;
  - for equipment that contains fluorinated greenhouse gases in quantities of 50 tonnes of CO<sub>2</sub> equivalent or more, but of less than 500 tonnes of CO<sub>2</sub> equivalent: at least every six months or, where a leakage detection system is installed, at least every 12 months;
  - for equipment that contains fluorinated greenhouse gases in quantities of 500 tonnes of CO<sub>2</sub> equivalent or more: at least every three months or, where a leakage detection system is installed, at least every six months.
- (4) Obligations of paragraph 1 for fire protection equipment as referred to in point d of paragraph 2 shall be considered to be fulfilled provided the following two conditions are met:
- the existing inspection regime meets ISO 14520 or EN 15004 standards; and
  - the fire protection equipment is inspected as often as is required under paragraph 3.
- (5) The Commission may, by means of implementing acts, specify requirements for the leak checks to be carried out in accordance with paragraph 1 of this Article for each type of equipment referred to in that paragraph, identify those parts of the equipment most likely to leak and repeal acts adopted pursuant to Article 3 paragraph 7 of Regulation (EC) No 842/2006. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 24.

## **Article 5**

### **Leakage detection systems**

- (1) Operators of the equipment listed in points a to d of Article 4 paragraph 2 and containing fluorinated greenhouse gases in quantities of 500 tonnes of CO<sub>2</sub> equivalent or more, shall ensure that the equipment is provided with a leakage detection system which alerts the operator or a service company of any leakage.
- (2) Operators of the equipment listed in points f and g of Article 4 paragraph 2 and containing fluorinated greenhouse gases in quantities of 500 tonnes of CO<sub>2</sub> equivalent or more and installed from 1 January 2017, shall ensure that this equipment is provided with a leakage detection system which alerts the operator or a service company of any leakage.
- (3) Operators of the equipment listed in points a to d and g of Article 4 paragraph 2 that is subject to paragraph 1 or 2 of this Article shall ensure that leakage detection systems are checked at least once every 12 months to ensure their proper functioning.
- (4) Operators of the equipment listed in point f of Article 4 paragraph 2 that is subject to paragraph 2 of this Article shall ensure that leakage detection systems are checked at least once every 6 years to ensure their proper functioning.

## **Article 6**

### **Record keeping**

- (1) Operators of equipment which is required to be checked for leaks pursuant to Article 4 paragraph 1, shall establish and maintain records for each piece of such equipment specifying the following information:
- the quantity and type of fluorinated greenhouse gases installed;
  - the quantities of fluorinated greenhouse gases added during installation, maintenance or servicing or due to leakage;
  - whether the quantities of installed fluorinated greenhouse gases have been recycled or reclaimed, including the name and address of the recycling or reclamation facility and, where applicable, the certificate number;
  - the quantity of fluorinated greenhouse gases recovered;
  - the identity of the undertaking which installed, serviced, maintained and where applicable repaired or decommissioned the equipment, including, where applicable, the number of its certificate;
  - the dates and results of the checks carried out under Article 4 paragraph 1 to 3;
  - if the equipment was decommissioned, the measures taken to recover and dispose of the fluorinated greenhouse gases.

(2) Unless the records referred to in paragraph 1 are stored in a database set up by the competent authorities of the Member States the following rules apply:

- a) the operators referred to in paragraph 1 shall keep the records referred to in that paragraph for at least five years;
- b) undertakings carrying out the activities referred to in point e of paragraph 1 for operators shall keep copies of the records referred to in paragraph 1 for at least five years.

The records referred to in paragraph 1 shall be made available, on request, to the competent authority of the Member State concerned or to the Commission. To the extent that such records contain environmental information, Directive 2003/4/EC of the European Parliament and of the Council<sup>(1)</sup> or Regulation (EC) No 1367/2006 of the European Parliament and of the Council<sup>(2)</sup> shall apply as appropriate.

(3) For the purpose of Article 11 paragraph 4 undertakings supplying fluorinated greenhouse gases shall establish records of relevant information on the purchasers of fluorinated greenhouse gases including the following details:

- a) the numbers of certificates of the purchasers; and
- b) the respective quantities of fluorinated greenhouse gases purchased.

The undertakings supplying fluorinated greenhouse gases shall maintain those records for at least five years. The undertakings supplying fluorinated greenhouse gases shall make such records available, on request, to the competent authority of the Member State concerned or to the Commission. To the extent that the records contain environmental information, Directive 2003/4/EC or Regulation (EC) No 1367/2006 shall apply as appropriate.

(4) The Commission may, by means of an implementing act, determine the format of the records referred to in paragraphs 1 and 3 of this Article and specify how they should be established and maintained. That implementing act shall be adopted in accordance with the examination procedure referred to in Article 24.

(1) Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC (OJ L 41, 14.2.2003, p. 26)

(2) Regulation (EC) No 1367/2006 of the European Parliament and of the Council of 6 September 2006 on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies (OJ L 264, 25.9.2006, p. 13).

## **Article 8**

### **Recovery**

(1) Operators of stationary equipment or of refrigeration units of refrigerated trucks and trailers that contain fluorinated greenhouse gases not contained in foams shall ensure that the recovery of those gases is carried out by natural persons that hold the relevant certificates provided for by Article 10, so that those gases are recycled, reclaimed or destroyed.

This obligation applies to operators of any of the following equipment:

- a) the cooling circuits of stationary refrigeration, stationary air-conditioning and stationary heat pump equipment;
- b) the cooling circuits of refrigeration units of refrigerated trucks and trailers;
- c) stationary equipment that contains fluorinated greenhouse gas-based solvents;
- d) stationary fire protection equipment;
- e) stationary electrical switchgear.

(2) The undertaking that uses a fluorinated greenhouse gas container immediately prior to its disposal shall arrange for the recovery of any residual gases to make sure they are recycled, reclaimed or destroyed.

(3) Operators of products and equipment not listed in paragraph 1, including mobile equipment, that contain fluorinated greenhouse gases shall arrange for the recovery of the gases, to the extent that it is technically feasible and does not entail disproportionate costs, by appropriately qualified natural persons, so that they are recycled, reclaimed or destroyed or shall arrange for their destruction without prior recovery.

The recovery of fluorinated greenhouse gases from air-conditioning equipment in road vehicles outside the scope of Directive 2006/40/EC of the European Parliament and of the Council<sup>(1)</sup> shall be carried out by appropriately qualified natural persons.

For the recovery of fluorinated greenhouse gases from air-conditioning equipment in motor vehicles falling within the scope of Directive 2006/40/EC only natural persons holding at least a training attestation in accordance with Article 10 paragraph 2 shall be considered appropriately qualified.

(1) Directive 2006/40/EC of the European Parliament and of the Council of 17 May 2006 relating to emissions from air conditioning systems in motor vehicles and amending Council Directive 70/156/EEC (OJ L 161, 14.6.2006, p. 12).

## Ordinance on the prevention of climate change resulting from the emission of certain fluorinated greenhouse gases (Chemicals – Climate Protection Ordinance; German designation: ChemKlima-SchutzV) of 2 July 2008

(Excerpt from the ChemKlimaSchutzV)

### § 3 Prevention of the release of fluorinated greenhouse gases into the atmosphere

(1) Anyone who operates stationary **applications within the meaning of Article 3 paragraph 1 of Regulation (EC) No 842/2006<sup>(1)</sup>** shall ensure that, in addition to **the requirements of Article 3 of Regulation (EC) No 842/2006<sup>(2)</sup>**, the specific refrigerant loss of the application during normal operation does not exceed the following limit values:

1 in the case of refrigerating units with a refrigerant capacity of at least 3 kilograms: 1%

2 in the case of applications set up at the place of installation after 30 June 2008

a) with a refrigerant capacity of less than 10 kilograms: 3%

b) with a refrigerant capacity of between 10 and 100 kilograms: 2 %

c) with a refrigerant capacity of more than 100 kilograms: 1 %

... The operator shall keep records of the checks for leakage and any repair work in accordance with sentence 1, at least documenting the type and quantity of refilled or recovered fluorinated greenhouse gases.

(4) The operator shall retain **the records in accordance with Article 3 paragraph 6 of Regulation (EC) No 842/2006 and the records in accordance with paragraph 2 sentence 3<sup>(3)</sup>** for at least five years after their creation and submit them to the competent authority on request.



**These tasks may only be carried out by certified experts in accordance with EU Reg 517/2014 (Article 10); EC Reg 303/2008 (Articles 4 and 5) and ChemKlimaSchutzV (Section 5)!**

In accordance with Regulation (EU) No 517/2014, Article 6, the operator of a refrigerating system containing 5 tons of CO<sub>2</sub> equivalent or more of fluorinated greenhouse gases must keep a logbook for the system. This refrigerating logbook must be submitted on request to the competent authorities and to the Commission. Furthermore, undertakings which installed, serviced, maintained and where applicable repaired or decommissioned the equipment have to keep a copy of the refrigerating logbook for 5 years.

(1) from 01.01.2015 on: applications within the meaning of article 3 of the Regulation (EU) No. 517/2014

(2) from 01.01.2015 on: the requirements of the articles 3, 4, 5, 6 of the regulation (EU) No. 517/2014

(3) from 01.01.2015 on: the records in accordance with article 6 of of the regulation (EU) No. 517/2014 and the records in accordance with article 4

**Manufacturer of the refrigerating system**

Company: AL-KO THERM GmbH  
Street, No.: Hauptstraße 248 - 250  
ZIP, City: 89343 Jettingen-Scheppach  
Telephone: (+49) 8225 / 39 - 0  
e-mail: klima.technik@al-ko.com  
Certification Number: 71-8730-27292/2009

**Operator**

Company: .....  
Contacts: .....  
Street, No.: .....  
ZIP, City: .....  
Telephone: .....  
e-mail: .....

**Installation location**

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.....  
.....  
.....  
.....  
.....

**Type of system**

Air conditioner with integrated refrigeration

Air conditioner with integrated refrigeration and heat pump

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**Required inspection intervals without leakage detection system**

For Plants using R407C as a Refrigerant:

Every 12 months

Refrigerant capacity from 2,82 kg to 28,17 kg

Every 6 months

Refrigerant capacity from 28,18 kg to 281,84 kg

Every 3 months

Refrigerant capacity from 281,85 kg

For Plants using R410A as a Refrigerant:

Every 12 months

Refrigerant capacity from 2,39 kg to 23,94 kg

Every 6 months

Refrigerant capacity from 23,95 kg to 239,45 kg

Every 3 months

Refrigerant capacity from 239,46 kg

For Plants using ..... as a Refrigerant:

Every 12 months

Refrigerant capacity from ..... to .....

Every 6 months

Refrigerant capacity from ..... to .....

Every 3 months

Refrigerant capacity from .....



**System data**

Manufacturer: .....

Year of construction: .....

Commissioned on: .....

Refrigerant (type): .....

Capacity (kg): .....

Max. perm. pressure (high): .....

Min. perm. pressure (low): .....

**Rating data**

Refrigeration rating .....kW to .....°C

Heating rating .....kW to .....°C

**Decommissioning of the plant**

Details of measures to recover and dispose the fluorinated greenhouse gases in case of decommissioning

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.....  
.....  
.....  
.....

**Check for leakage**

Date	Leak-tightness requirements		Expert	Certification number in accordance with EG VO 303 / 2008 and ChemKlimaSchutz-Verordnung
	Met	Not met		

**Repair / Maintenance / Servicing / Decommissioning**

Date	Type	Report	Expert / undertaking	Certification number

<b>Specific loss of refrigerant / leakage rate</b>		
<b>Year</b>	<b>Refrigerant loss in kg/year</b>	<b>Specific loss of refrigerant **%</b>

\* Permissible specific loss of refrigerant: see legal notice (sliding scale)

Refrigerating machine oil					
Date	Oil	Disposed of (kg)	Filled (kg)	Reason	Expert / Certification number

<b>Refrigerant</b>					
Date	Refrigerant	Disposed of (kg)	Filled (kg)	Reason	Expert / Certification number



Соблюдайте следующие постановления, подробная информация:

- Постановление (ЕС) № 517/2014 ЕВРОПЕЙСКОГО ПАРЛАМЕНТА И СОВЕТА от 16 апреля 2014 г. о фторсодержащих парниковых газах

- Постановление о защите климата от изменений, вызванных проникновением определенных фторированных парниковых газов (Постановление о защите климата от химических веществ — ChemKlimaSchutzV) от 2 июля 2008 г.

### Изготовитель холодильной установки

Фирма: AL-KO THERM GmbH  
Улица, номер дома: Hauptstraße 248 - 250  
Индекс/нас. пункт: D-89343 Jettingen-Scheppach  
Телефон: (+49) 8225 / 39 - 0  
Эл почта: klima.technik@al-ko.com  
Сертификационный номер: 71-8730-27292/2009

### Пользователь

Фирма: .....  
Контактное лицо: .....  
Улица, номер дома: .....  
Индекс/нас. пункт: .....  
Телефон: .....  
Эл почта: .....

### Место установки

.....  
.....  
.....  
.....  
.....  
.....



**Тип установки**

- Установка кондиционирования воздуха со встроенной холодильной машиной
- Установка кондиционирования воздуха со встроенной холодильной машиной и тепловым насосом
- .....

**Необходимые интервалы проверки без системы обнаружения утечек**

Для установок с хладагентом R407C:

- Каждые 12 месяцев      Заправочный объем хладагента от 2,82 кг до 28,17 кг
- Каждые 6 месяцев      Заправочный объем хладагента от 28,18 кг до 281,84 кг
- Каждые 3 месяцев      Заправочный объем хладагента от 281,85 кг

Для установок с хладагентом R410A:

- Каждые 12 месяцев      Заправочный объем хладагента от 2,39 кг до 23,94 кг
- Каждые 6 месяцев      Заправочный объем хладагента от 23,95 кг до 239,45 кг
- Каждые 3 месяцев      Заправочный объем хладагента от 239,46 кг

Для установок с хладагентом .....

- Каждые 12 месяцев      Заправочный объем хладагента от ..... до .....
- Каждые 6 месяцев      Заправочный объем хладагента от ..... до 239,45 кг
- Каждые 3 месяцев      Заправочный объем хладагента от .....

**Данные установки**

Изготовитель: .....

Год выпуска: .....

Дата пуска в эксплуатацию: .....

Хладагент (тип): .....

Заправочный объем (кг): .....

Макс. допустимое давление (ВД): .....

Мин. допустимое давление (НД): .....

**Технические характеристики**

Холодопроизводительность .....кВт при .....°С

Мощность нагрева .....кВт при .....°С

**Снятие установки с эксплуатации**Указание мер по извлечению и  
утилизацию фторсодержащих  
парниковых газов в случае снятия  
установки с эксплуатации .....

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Проверка герметичности				
Дата	Требования к герметичности		Эксперт	Сертификационный номер согласно постановлению ЕС 303 / 2008 и Постановлению по защите климата (ChemKlimaSchutzVerordnung)
	Выполнено	Не выполнено		

**Ремонт / техобслуживание / поддержание в исправном состоянии / снятие с эксплуатации**

Дата	Вид	Отчет	Эксперт / фирма	Сертификационный номер



**Масло для фреоновых охладителей**

Дата	Масло	Утилизиро-вано (кг)	Пополнено (кг)	Причина	Эксперт / сертификационный номер

Хладагент					
Дата	Хладагент	Утилизировано (кг)	Пополнено (кг)	Причина	Эксперт / сертификационный номер

**Восстановление и вторичная переработка хладагента**

Дата	Хладагент	Подвергнуто вторичной переработке (кг)	Восстановлено (кг)	Наименование и адрес установки для вторичной переработки или восстановления	Сертификационный номер









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