AuRü

GS Gesellschaft für Umweltschutz mbH

Safety First

Product brochure

Collection and retaining systems

Concept | Planning | Execution | Service

Content

Complete solutions - safety systems

Components / accessories

Legal regulations

Who we are

GS Gesellschaft für Umweltschutz mbH manufactures collection and retention systems for water-polluting substances. Our brand – AuRü – is a well-known name associated with high quality that our customers trust. Our products sold under this name show our experience in terms of quality and technology as well as our engineering knowledge.

Product development

Initially our company still manufactured simple collection systems for water-polluting substances. But over the years, these systems have been developed to meet the increasing demands of operators and lawmakers. Our company has always attached great importance to launching products on the market only after extensive tests and quality checks. Our customers are right to trust our products and safety solutions – and we strive to uphold that trust.

Identification

Our products and services are not just our calling card – they are the culmination of contributions that every single employee makes in the company every day. We are a team – a family – in short: **We are AuRü!**

Innovation

AuRü stands for a lot, but not for standing still. Our development department is constantly looking for new innovations and upgrades for our product series, so you can always work with the safest system.

Quality

Our qualified employees and the use of the latest production technologies guarantee products of the highest safety and quality level. Striving for the highest quality “Made in Germany” (and the best technical advances) is part of our company philosophy.

System concept

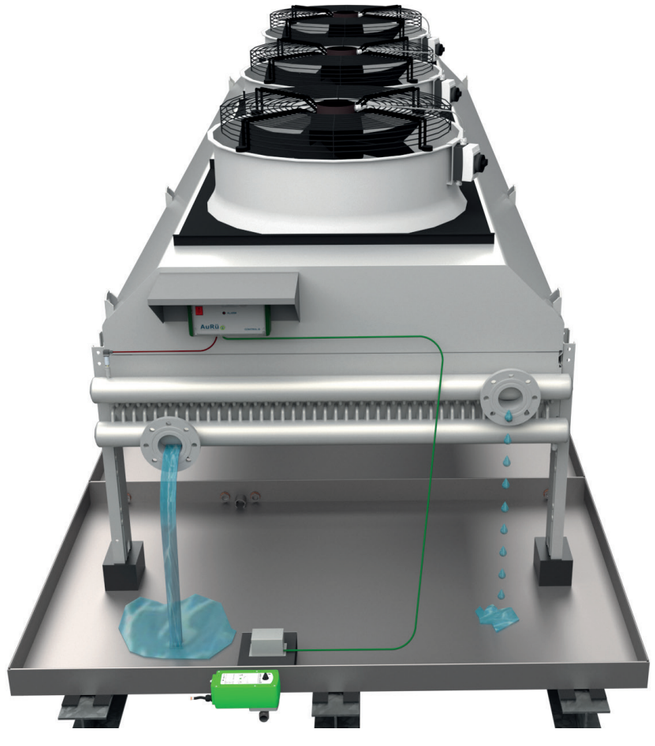
We rely on the modular principle wherever possible. Our customers should be able to exchange individual components and also be able to upgrade future components quickly and cheaply.

AuRü safety systems – premium quality

WE ARE RESPONSIBLE

Our retention systems meet the highest requirements.

Both in Germany and the rest of Europe, plants with substances hazardous to water are legally obliged to install safety systems to retain these substances.
The operator of the plant is responsible for any environmental damage caused by their systems and is fully liable. In the event of a leak, the safety system must be able to absorb the water-polluting substances so they do not get into the groundwater or waste water. AuRü has specialised in the retention of water-polluting substances in the refrigeration and air conditioning sector, offering technically high-quality retention systems that protect your systems. We are also already developing our premium products with future-oriented technology in close cooperation with the authorities.



Collection systems for oil

A comparison of our variants for oil retention:

Premium
L

AuRü-OP

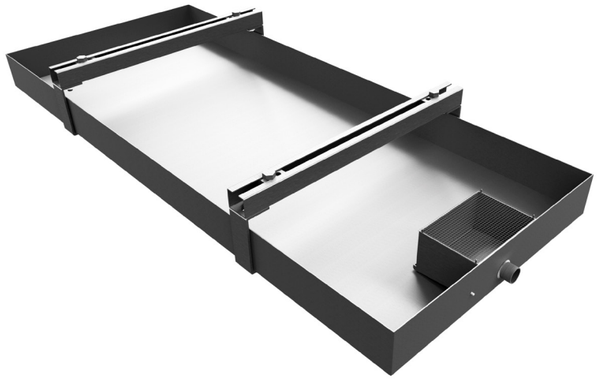
- Stainless steel collection tray
- Oil separator **(large)**
- Standard **and special sizes**
- Mounting set **with mounting rails**
- Tray height **80 mm**

Basic
OP/LC

AuRü-L

- Stainless steel collection tray
- Oil separator
- Standard sizes
- Mounting set
- Tray height 35 mm

AuRü - L



The standard sizes have the following key data:

Type	Dimensions (HxWxL)	Collection volume
AuRü-LC2	80 x 400 x 950 mm	approx. 1.5 litres
AuRü-LC3	80 x 500 x 1200 mm	approx. 2.4 litres
AuRü-LC5	80 x 1000 x 1200 mm	approx. 4.8 litres
AuRü-LC6	80 x 1200 x 1200 mm	approx. 5.8 litres
AuRü-LC7	80 x 1200 x 1500 mm	approx. 7.2 litres
AuRü-LC8	80 x 1200 x 1750 mm	approx. 8.4 litres

Premium

L

AuRü-L

- Stainless steel collection tray
- Oil separator **(large)**
- Standard **and special sizes**
- Mounting set **with mounting rails**
- Tray height **80 mm**

✓ Tested system

✓ Modular construction principle

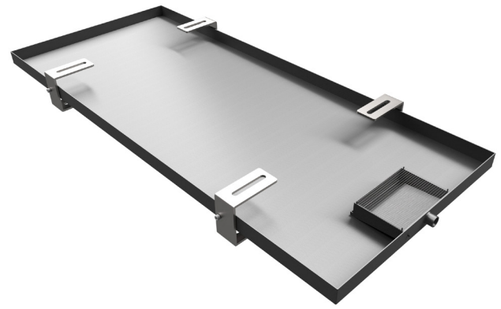
AuRü - Oil protector

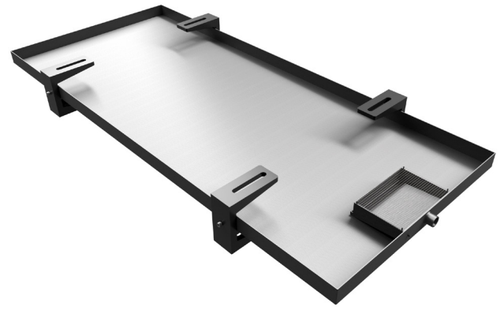
Basic

OP/LC

AuRü-OP

- Stainless steel collection tray
- Oil separator
- Standard sizes
- Mounting set
- Tray height 35 mm





The standard sizes have the following key data:

Type	Dimensions (HxWxL)	Collection volume
AuRü-ÖP-1	35 x 320 x 900 mm	approx. 1.2 litres
AuRü-ÖP-2	35 x 400 x 950 mm	approx. 1.5 litres
AuRü-ÖP-3	35 x 500 x 1150 mm	approx. 2.3 litres
AuRü-ÖP-4	35 x 850 x 1140 mm	approx. 3.8 litres
AuRü-ÖP-5	35 x 930 x 1140 mm	approx. 4.2 litres
AuRü-ÖP-6	35 x 780 x 1500 mm	approx. 4.7 litres
AuRü-ÖP7	35 x 1200 x 1500 mm	approx. 5.4 litres
AuRü-ÖP8	35 x 850 x 1430 mm	approx. 4.9 litres
AuRü-ÖP9	35 x 590 x 1250 mm	approx. 3.0 litres
AuRü-ÖP10	35 x 850 x 1750 mm	approx. 5.0 litres

Glycol collection and retention systems

A comparison of our variants for glycol retention:

Premium

W

Pressure and glycol detection

AuRü-W

- Stainless steel collection tray
- **NWS connection system (No water level)**
- **1-second valve**
- Switching electronic
- Pressure sensor
- **Glycol sensor**

Basic

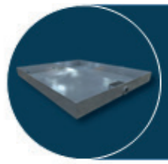
GP

Pressure monitoring

AuRü-GP

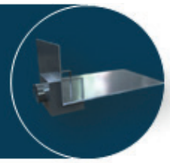
- Stainless steel collection tray
- Standard banjo bolts (approx. 15mm water level)
- Standard ball valve
- Switching electronic
- Pressure sensor

AuRü - W Premium



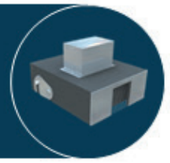
Collection tray

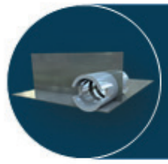
Drain
DN25/DN50
side/floor



Special ball valve, protection class IP66, (Fast Drive/ 1 sec. closing time)

Sensor adapter



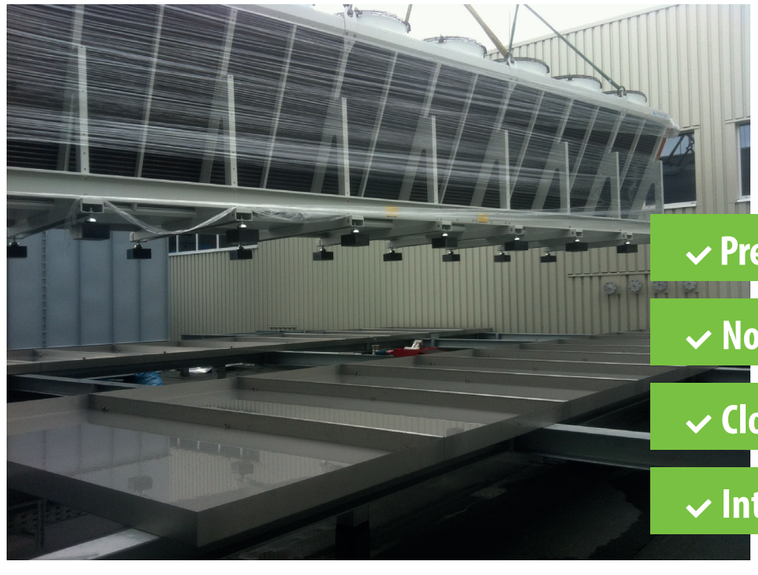


NWL
(No water level)

Pressure sensor, protection class IP67

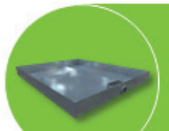
Switching electronics, protection class IP66

Glycol sensor, protection class IP67



- ✓ **Pressure and glycol detection**
- ✓ **No water level**
- ✓ **Closing time 1 second**
- ✓ **Intelligent control**

AuRü - GP Basic



Collection tray

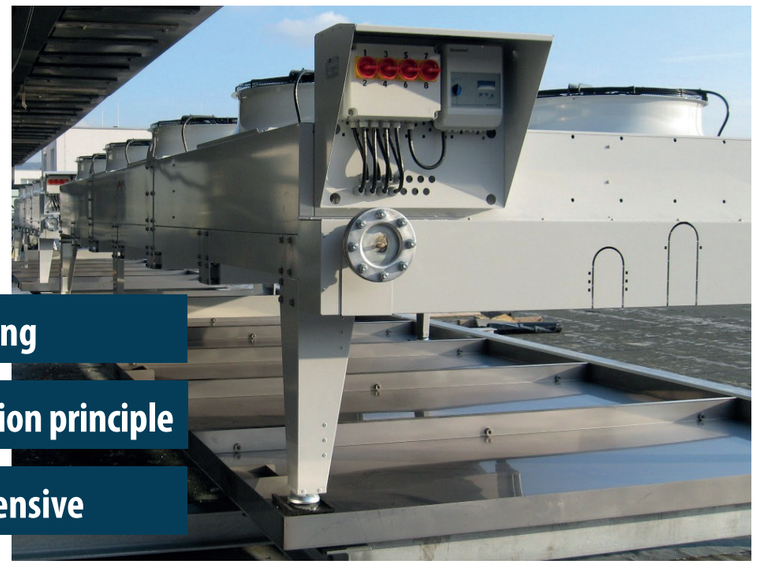
Standard banjo bolt approx. 15 mm water level

Ball valve with quick-closing technology, protection class IP66

Drain DN25/DN50 side/floor

Switching electronics, protection class IP66

Pressure sensor, protection class IP67



- ✓ Pressure monitoring
- ✓ Modular construction principle
- ✓ Simple and inexpensive

Collection and retention systems for oil and glycol

A comparison of our variants for oil and glycol retention:

Premium

LW

Pressure and glycol detection

AuRü-LW

- Stainless steel collection tray
- Oil separator
- **1-second valve**
- Switching electronic
- Pressure sensor
- **Glycol sensor**
- **High-performance heating insert**

Basic

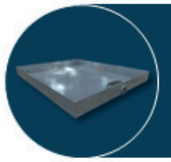
OGP

Pressure monitoring

AuRü-OGP

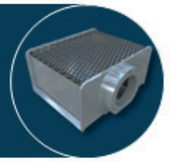
- Stainless steel collection tray
- Oil separator
- Standard ball valve
- Switching electronic
- Pressure sensor

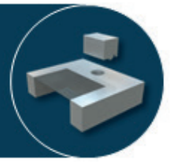
AuRü - LW Premium


Collection tray


Special ball valve, protection class IP66 (Fast drive/ 1 sec. closing time)


Drain heating IP68


Oil separator


Sensor adapter


Pressure sensor, protection class IP67

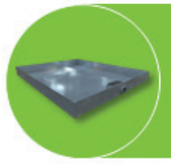

Standard banjo bolt approx. 15 mm water level


Switching electronics, protection class IP66


Glycol sensor, protection class IP67

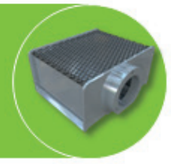
- ✓ Pressure and glycol detection
- ✓ Oil separator
- ✓ Closing time 1 second
- ✓ Intelligent control

AuRü - OGP Basic


Collection tray


Standard banjo bolt approx. 15 mm water level


Ball valve with quick-closing technology, protection class IP66


Oil separator


Switching electronics, protection class IP66


Pressure sensor, protection class IP67

- ✓ Pressure monitoring
- ✓ Oil separator
- ✓ Modular construction principle
- ✓ Simple and inexpensive

Sensor technology

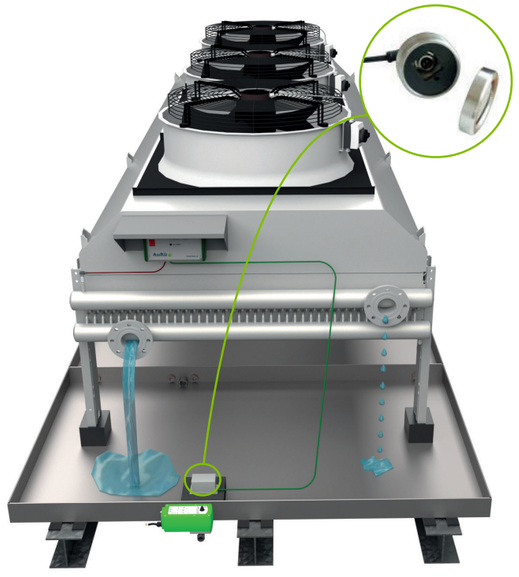
Glycol sensor

The legislation requires that drip and splash losses are also retained. However, these small quantities are not visible with normal pressure monitoring in most cases. Even larger leaks can not be detected for certain in open systems with constant make-up by normal pressure monitoring. Because there is a constant pressure in the cold water circuit by permanent make-up, with normal pressure monitoring generally the emptying of the system is detected too late. Also pressure fluctuations often lead to false alarms. The AuRü Glycol sensor was developed for the detection of these small quantities. In addition, the AuRü is Glycol sensor is a sensible option for open systems, where even at a larger leakage there is a constant pressure. This leakage cannot be detected for certain by normal pressure monitoring. The autonomous system ensures constant monitoring. If Glycol is detected here, then the value reported is shown as plain text in the display of the supplied control unit, and reported to the BMS via the potential-free alarm output. At the same time, the safety system shut-off valves are closed.

Perfect protection with sensitive nose

In the event of small leaks the medium will drip into the collection and retaining system. The Glycol sensor sniffs out even small amounts of glycol particles directly before the drain. The sensitivity of the sensor is calibrated.

As soon as a sensor detects an abnormality, the valves are immediately closed.



Pressure sensor

Safety with pronounced leaks

The pressure sensor is standard in the area of leakage monitoring and measures the pressure within the water-Glycol circuit. With a fast-escaping medium, the device detects the damage via the dropping pressure.

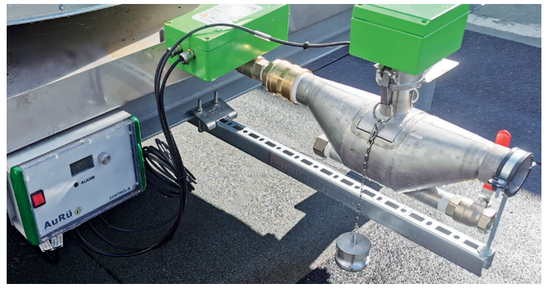
Glycol scanner

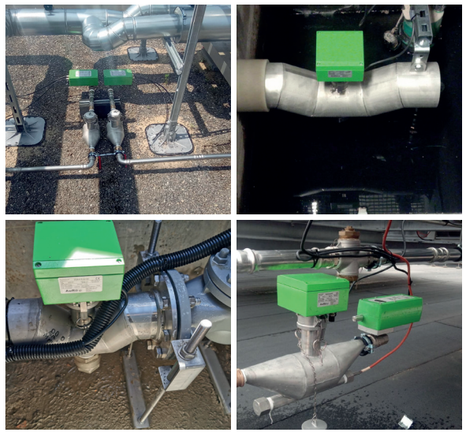
The glycol scanner reacts to the smallest amounts of glycol in the water. This means that the smallest amounts of glycols in a medium can be measured within seconds. The glycol scanner consists of several combined sensor units. The media-touching parts are made of DIN 1.4571 stainless steel as standard. The desired limit value can be set as a percentage in the electronic control. If the limit value is exceeded, an alarm message is sent to the building management system and further measures are taken depending on the technical design.

The measured glycol concentration can be called up in the submenu of the controller. The type of glycol used can be selected by means of the intelligent control, thereby achieving an optimal measured value. Flow monitors and temperature and water sensors ensure reliable monitoring of the safety system.

Product advantages:

- ✓ Detection of small amounts of glycol
- ✓ Use in non-pressurised systems
- ✓ Measurement independent of the conductivity of the water
- ✓ Fast capture
- ✓ Precise evaluation

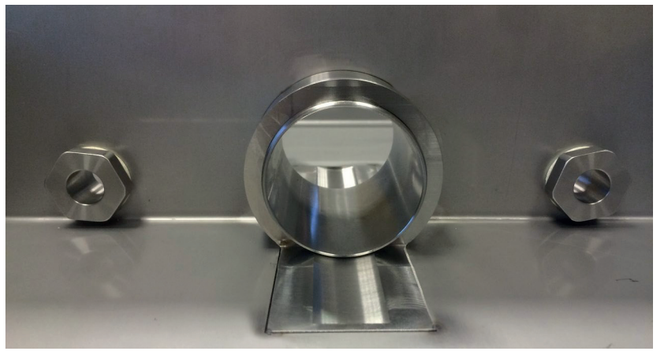




Installation in:

- ✓ Collection trays
- ✓ Piping systems
- ✓ PE container
- ✓ Pump sumps
- ✓ Roof drainage
- ✓ And many more

Connection technology

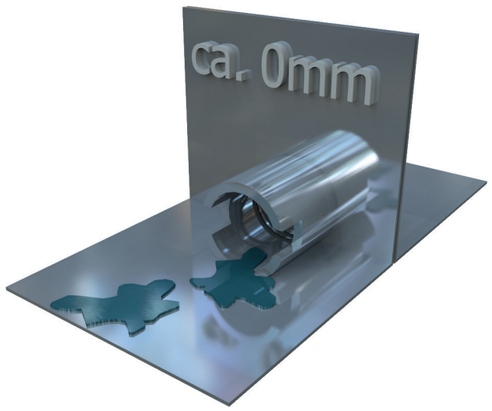


AuRü NWL connection system
No water level

Our standard collection trays are connected to each other with banjo bolts.
These contribute to the stability of the tray design and also allow a balanced water level in all connected trays. The medium which has entered the trays passes through the banjo bolt and is distributed equally in all connected trays.

The NWL tray connection stands for “no water level”, and is conceived so that no water level can be present in the tray - it is only possible that small puddles can form in the tray area. Only banjo bolts are used in normal collection trays. Following rainfall with normal banjo bolts a water level of 15 mm will be present in the collection and retaining systems, within a short time algae and even the extremely hazardous Legionella can be formed.

The AuRü-NWL connection system reduces the risk of algae and legionella formation.



Product advantages:

- Minimises the risk of algae and legionella formation
- Silicone-free tray connection
- Easy and fast installation
- No acquisition costs for heating required
- Consequential costs for heating not applicable
- No costly maintenance necessary
- No elaborate piping
- Hermetically sealed tray connection

Retrofits

Retrofits for existing plants

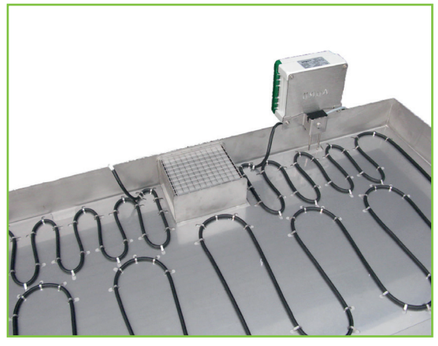
Planning and installing a system is not only a challenge from a technical point of view. The constantly more stringent legislation requires an equally watchful eye, because this is where many regulations, guidelines and laws come together at European, national and regional level. In order to ensure acceptance by the authorities or monitoring associations, you should rely on an expert in this area. At AuRü we produce these legally-compliant safety systems, specialise in retrofitting and can develop a low-cost package that can be installed in most cases even without dismantling the system to be safeguarded. Give the planning responsibilities and the associated execution to AuRü and make sure that your system is compliant with the law and technically correctly protected.

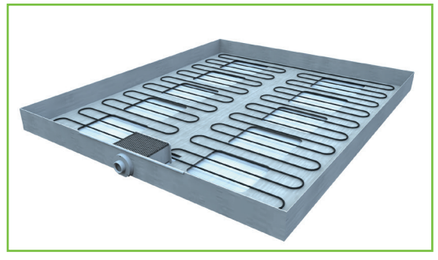
The solution for heat pumps!

AuRü surface heating

While some systems only operate in the warm summer months, heat pumps run all year round. Condensate forms below the heat pump, especially on cold autumn and spring nights and when temperatures are below zero in the winter months. Depending on the type of system, the condensate drips down from the system at one or two points into the collection system. Since the stainless steel absorbs temperatures very quickly and adapts to them, the aggregate state of the condensate dripping down changes directly into ice.
Each additional drop forms another layer of ice, so a kind of stalagmite soon forms.

AuRü uses surface heating to counteract this phenomenon. This heats the entire base of the tray, so it offers optimal heat distribution under the system.





Technical description

The heater is switched on when the water temperature is <5 degrees Celsius and when water is detected in the tray.
The temperature is determined by the thermostat controls of the heating cable. Customer-specific special programs can be adjusted via a 4-pole dip switch. An LED on the printed circuit board displays the status of the control.

Technical data

Voltage:	230V AC 50 Hz
Performance:	approx. 390 watts (FLH-1, FLH-4, FLH-5) approx. 690 watts (FLH-2, FLH-6, FLH-7) approx. 990 watts (FLH-3, FLH-8)
Cable diameter:	approx. 7mm
Min. operating temperature:	-30°C
Max. operating temperature:	+ 90°C
Min. Installation temperature:	-30°C
Function guarantee:	approx. -15°C
Length of connection cable:	approx. 5 m
Alarm output:	potential-free switching contact (max. 60V 1A)
Type of protection:	IP66
Mounting position:	lying
Temperature control:	by thermostat control

Heating technology

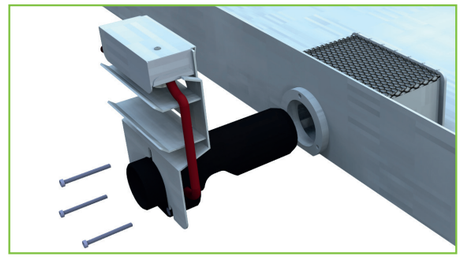
AuRü heating solutions

The AuRü heating solutions are fixed depending on the heating systems at the drain, in the drain or under the tray drain. The energy utilisation is so outstanding that the complete counter-current system and the surrounding tray are optimally heated. The heating systems are already equipped with thermostat, so that no further components for the feature are necessary.

High-performance heating insert

Suitable for
AuRü-L, AuRü-LW+, AuRü-LW, AuRü-ÖGP

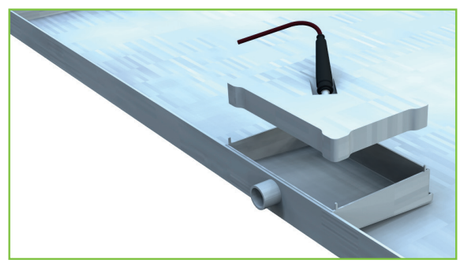
- ✔ Easy and fast installation
- ✔ Efficient use of energy
- ✔ Incl. thermostat



High performance heating block

Suitable for
AuRü-ÖP

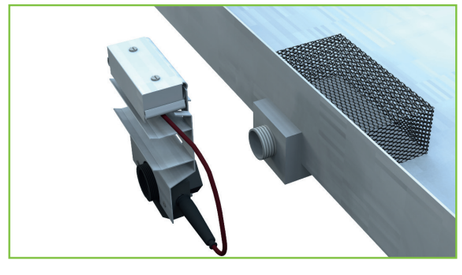
- ✔ Easy and fast installation
- ✔ Efficient use of energy
- ✔ Incl. thermostat



Drain line heater harness

Suitable for
AuRü-W+, AuRü-W, AuRü-GP

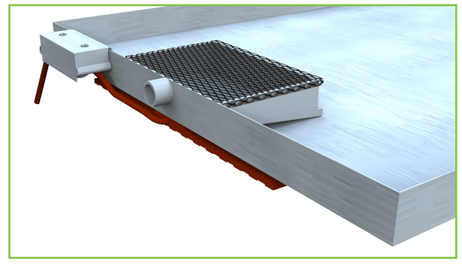
- ✔ Easy and fast installation
- ✔ Efficient use of energy
- ✔ Incl. thermostat



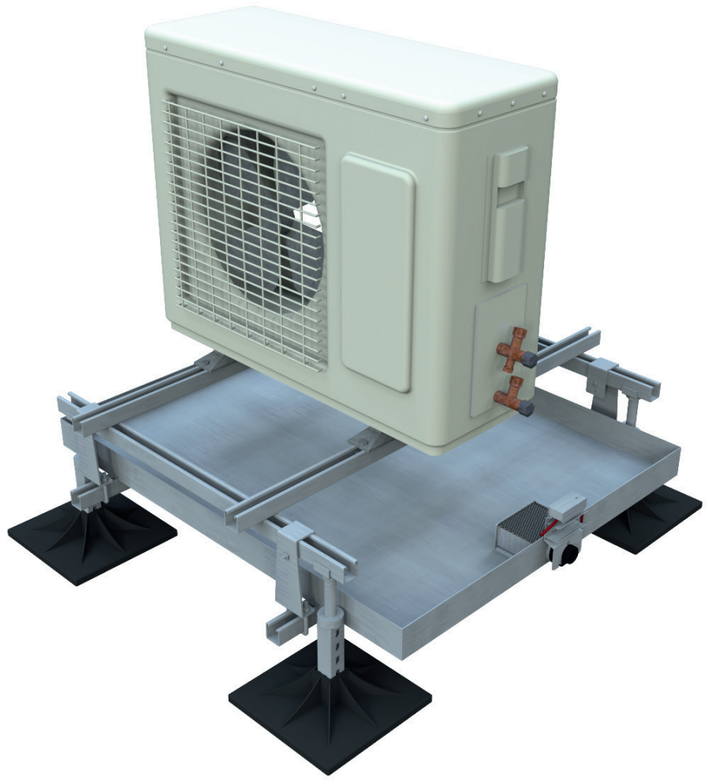
Heating mat with thermostat

Suitable for
all collection trays

- ✔ Low-cost



AuRü installation systems



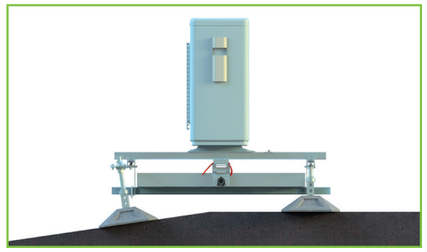
AuRü-Flex-O-Frame

The AuRü Flex-O-frame systems are a quick and economical way for the installation of refrigeration, air-conditioning and ventilation systems. Also pipes, ducts or cable trays can be laid in addition to refrigeration units.

The C-profiles are available by default in 41 x 41 mm rail, optionally also in 61 x 41 mm C-profiles.

Product advantages

- Quick and easy assembly
- Good weight distribution
- Compensation of roof slope with **SMART-KIT (modular)**
- Hot-dip galvanised support system
- Gentle load balancing using integrated damping mats per foot
- Optional with AuRü-trays assembly set

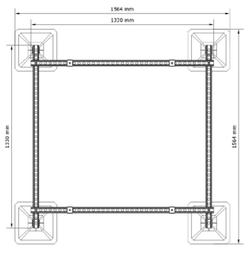


INNOVATION

AuRü-SMART-KIT

The SMART-KIT ball element is screwed over the SMART-KIT threaded rod and forms the mount for the two Smart-Kit frame plates. The fixing of the SMART-KIT ball element is done with counter-tightened top and bottom nuts. The SMART-KIT ball element enables gradient compensation of up to 10%.

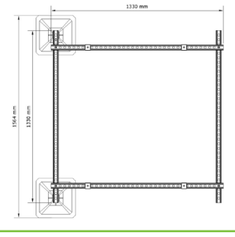
Flex-O-frame - (base system)



consisting of

- 2 x 1.33 m crossbars 41 x 41 mm
- 2x 1.33 m crossbars 41 x 41 mm
- 4 x complete AuRü-frame installation feet 310 mm
- 8 x Flex-O-frame screw set
- (optional) 2 x suspension set incl. mounting screws

Extension Kit



consisting of

- 2 x 1.33 m crossbars 41 x 41 mm
- 2x 1.33 m crossbars 41 x 41 mm
- 2 x AuRü-frame installation feet 310 mm
- 8 x Flex-O-frame screw set
- 2 x rail clamps

Rubber coating

The underside of the base feet is covered with anti-slip soft rubber, so that a firm base can be guaranteed even with minor unevenness.

Height adjustment

Each foot can be adjusted in height to compensate for unevenness in the roof.

Fixation

The rail system offers the option of fixing the system with a screw that can be moved in the rail or with a clamp.

AuRü installation systems

AuRü Easy Frame Mini

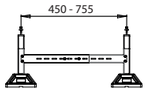
✓ A variable system

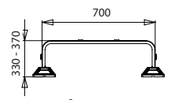
✓ for different system sizes

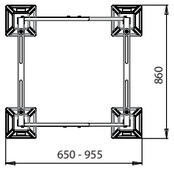
1 Easy Frame Mini including extension option

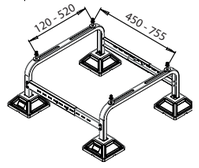
2 Easy Frame Mini including system attachment

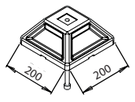
3 Easy Frame Mini including collection system and plant

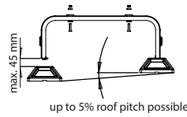












up to 5% roof pitch possible

Properties of the frame	Properties of the feet
✓ Galvanised frame	✓ Material: SBR rubber with steel insert
✓ Powder coated in colour RAL7021	✓ Dimension: 200 x 200 mm
✓ Max. load up to 360 kg	✓ Load capacity 150 kg / foot
✓ Produced according to EN 1993-4-2:2009, EN 1002	✓ UV-resistant
✓ Height-adjustable foot mount	✓ Temperature resistant from - 40°C / to + 100°C
✓ Incl. 4x anti-vibration dampers	✓ Static testes

Optional: AuRü Mini mounting kit

1 Mini mounting kit with longitudinal beams

2 Mini mounting kit with tray insert and fixation

- ✓ Available seperately
- ✓ Two longitudinal beams with slotted holes
- ✓ Two mounting brackets including screws for fixing the tray to the frame

AuRü Easy Frame Maxi

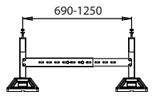
✓ A variable system

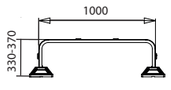
✓ for different system sizes

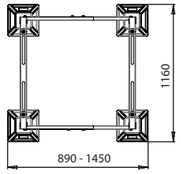
1 Easy Frame Maxi including extension option

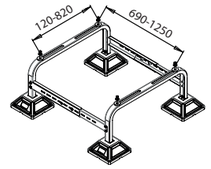
2 Easy Frame Maxi including system attachment

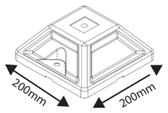
3 Easy Frame Maxi including collection system and plant

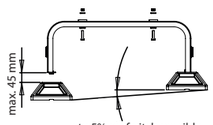












up to 5% roof pitch possible

Properties of the frame	Properties of the feet
✓ Galvanised frame	✓ Material: SBR rubber with steel insert
✓ Powder coated in colour RAL7021	✓ Dimension: 200 x 200 mm
✓ Max. load up to 500 kg	✓ Load capacity 150 kg / foot
✓ Produced according to EN 1993-4-2:2009, EN 10025	✓ UV-resistant
✓ Height-adjustable foot mount	✓ Temperature resistant from - 40°C / to + 100°C
✓ Incl. 4x anti-vibration dampers	✓ Static tested

Optional: AuRü Mini mounting kit

1 Maxi mounting kit with longitudinal beams

2 Maxi mounting kit with tray insert and fixation

- ✓ Available seperately
- ✓ Two longitudinal beams with slotted holes
- ✓ Two mounting brackets including screws for fixing the tray to the frame

*AuRü Easy Frame Maxi images similar

AuRü installation systems

AuRü rubber base 400/600/1000

1 AuRü rubber base 400

2 AuRü rubber base 600

3 AuRü rubber base 1000

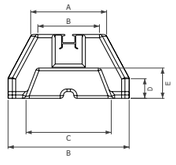
Product properties

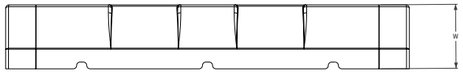
- Dimensions (LxWxH): 1000x180x95
- The carrier is made from recycled SBR rubber with an embedded aluminium profile
- Ideal for air conditioning, ventilation systems and ducts, as well as pipelines and other installations

Material

- Rubber granules (SBR rubber)
- Neutral polyurethane adhesive
- Aluminium

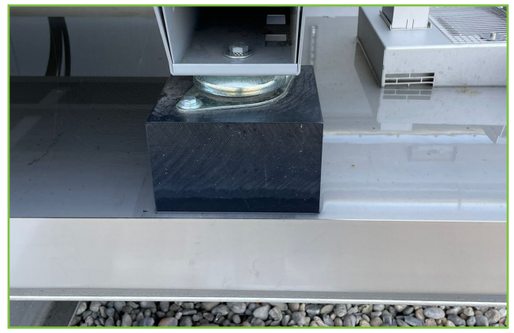
Dimensions	Size in mm	Tolerance in mm
L	400/600/1000	-0 +5
W	180	± 2
H	95	± 2
A	110	± 2
B	100	± 2
C	130	± 2
D	30	± 2
E	45	± 2
Tare weight (kg)	4,5/ 6,7/ 11,2	

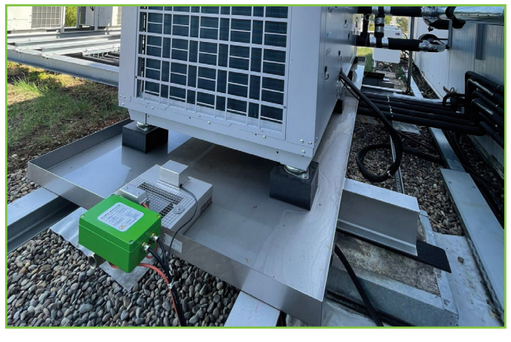




Please find out from the manufacturer of the roof skin about possible reactions with plasticisers and whether there may be other reasons for damage to the roof skin.

Credentials



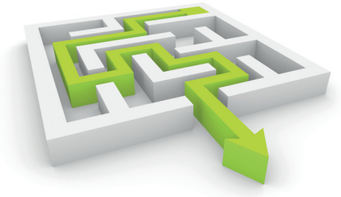


Customers who trust us:

STRABAG PROPERTY AND FACILITY SERVICES · Nutzfahrzeuge · BMW GROUP · MINI · 3M · Telefónica

Legal regulations

Initial situation:



The ester oils used in air conditioning and heat pump systems correspond to WGK 1 or WGK 2 when manufactured. However, according to the old VwVwS and the new AwSV, the lubricants and waste oils used are assigned to the highest water hazard class (WGK 3). As soon as an air conditioning or refrigeration system is put into operation, the refrigerant mixes with the liquid ester oil and a refrigerant-oil mixture is formed, which leads to a higher water hazard class. The VwVwS (administrative regulation on substances hazardous to water) has now been replaced by the AwSV.

Depending on the design, a water-glycol mixture is also used in chillers and recoolers to protect against corrosion and frost. In 1999, the VwVwS administrative regulation on substances hazardous to water came into force, the "water hazard class 0" (substances not hazardous to water) was abolished, since then all glycols have been classified at least in WGK 1 and must also be retained. This also applies to food-safe glycol such as Antifrogen L.

Summary of the legal regulations:

The requirements for safety systems in German and European regulations are becoming ever more stringent. On 1 August 2017, the new AwSV, the ordinance on the handling of substances hazardous to water, came into force and replaces the previous 16 state ordinance VAwS.

The following requirements arise for the refrigeration and air conditioning industry according to the current legal situation.

At the federal level, the WHG Water Resources Act § 62, paragraph 1 applies:

"Systems for storing, filling, manufacturing and treating water-polluting substances as well as systems for using water-polluting substances in the commercial sector and in the area of public facilities must be designed and installed, set up, maintained and operated in such a way that contamination of water or a other adverse changes in its properties are not to be feared."

In principle, systems for handling water-polluting substances must be set up and operated in such a way that "an adverse change in the properties of water bodies is not to be feared".
This applies without exception, i.e. there are no "allowances" (§ 62 of the Water Resources Act).

"Country-specific deviations from this principle are generally not possible."

This so-called "principle of concern" states that there must be no likelihood, however remote, of contamination of the water body.
The occurrence of damage must be improbable according to human judgement.

In order to achieve the protection goal, a safety concept has to be created for each system, which has to contain requirements from the following four areas:

- General safety (primary safety) Suitability, reliability of all system parts against all loads and influences
- Multiple safety (secondary safety), redundant technical protections
- Internal and external monitoring (tertiary security)
- Reparative measures (quaternary security) Options and prospects of success in the event of damage

This is associated with an obligation to provide information when installing systems, which must be provided by the specialist planner and system constructor.

Water Resources Act § 5 - General due diligence

"Every person is obliged to exercise the due diligence required under the circumstances when taking measures that may have an impact on a body of water

1. to avoid an adverse change in the water properties..."

The new federal ordinance AwSV

Area of application of AwSV in its own wording:

- AwSV § 1 Purpose; scope of application

"... "(3) This ordinance also does not apply to above-ground installations with a volume of no more than 0.22 cubic metres for liquid substances or with a mass of no more than 0.2 tones for gaseous and solid substances if these systems are located outside of protected areas and designated or provisionally secured flood plains.
§ 62 paragraphs 1 and 2 of the Water Resources Act remains unaffected.
Systems according to sentence 1 do not require a suitability assessment according to § 63 paragraph 1 of the Water Resources Act. ..."

Explanation:

Paragraph 3 introduces a de minimis rule with the aim of reducing bureaucracy. According to this rule, above-ground systems up to 220 litres or 200 kilogrammes outside of protected areas and fixed or provisionally secured flood areas are exempt from the regulation. The technical requirements, notification obligations or other obligations under this ordinance do not apply to the operators of these systems.

For these systems, however, the concern principle or the principle of the best possible water protection according to § 62 paragraph 1 WHG remains unaffected according to sentence 2, even if no special technical and organisational measures are required according to the regulation.

This de minimis rule also does not mean that the quantities indicated are insignificant. The release of a water-polluting substance from a small system is just as significant as the release of the same quantity from a system subject to the regulation. According to sentence 3, the small systems mentioned do not require a suitability assessment according to § 63 paragraph 1 WHG. The introduction of such a de minimis regulation follows the frequently expressed desire to dispense with any kind of official monitoring for such systems and make compliance the personal responsibility of the operators under the principle of concern or the best possible protection of the water. The de minimis rule also relieves the competent authorities of any monitoring work, unless water-polluting substances escape or soil or water pollution occurs.

The basic requirement of the AwSV in its own wording:

- **AwSV § 17 basic requirement:**

Systems must be **planned** and **constructed**, **designed** and **operated** in such a way that

1. Substances hazardous to water cannot escape,
2. Leaks in all parts of the system that come into contact with water-polluting substances can be detected quickly and reliably,
3. Leaking water-polluting substances are quickly and reliably detected and contained and properly disposed of; this also applies to operationally occurring splash and drip losses, and
4. In the event of a disturbance in the intended operation of the system (malfunction), any mixtures that may contain leaking water-polluting substances are retained and properly disposed of as waste or disposed of as waste water.

Explanation:

These basic requirements represent the central element of the technical system-related regulations and were adopted from the state regulations. What is new is that in future, systems will have to be planned and built in such a way that these requirements are met. This emphasis on the qualified planning and construction of a system is necessary because it has become apparent during implementation that the planners or system constructors are often not sufficiently familiar with the technical rules to be observed.

- **AwSV § 19; Drainage requirement**

"... "(4) Rainwater from areas on which cooling units from refrigeration systems with ethylene or propylene glycol are set up outdoors must be discharged into a sewage or mixed water channel.
Water law requirements for discharge and local discharge conditions remain unaffected.

Explanation:

Paragraph 4 regulates the drainage of cooling units installed outdoors. Protection against rainwater is not possible with these systems due to the necessary exchange of air, so that in the event of a leak in the systems, the water-polluting substances flow off together with the rainwater. Normally, rainwater is fed into the surface water via a separate rainwater network, or the operator uses a trench to seep away the water. In order to prevent water pollution from occurring, the system must be set up on a paved surface (See § 35 paragraph 3 number 3) and, according to paragraph 4, the rainwater flowing from there must be drained into the sewage or mixed water channel.
The ordinance does not contain any further statements on the separation of the areas on which cooling units are installed from other areas on which precipitation water also occurs. As a rule, however, this will be necessary because the sewer networks only have a limited capacity and therefore cannot absorb all the rainwater.
In addition, it is a very cost-intensive process. It is therefore advisable to separate the amounts of precipitation between the roof and refrigeration machine drainage. Irrespective of this, water-polluting substances of WGK1 must not be discharged uncontrolled. In the event of an accident, the pollutant load is to be collected, held back, and the quantity and time are to be determined, then it can be discharged in a controlled manner only after consultation with the authorities/ sewage treatment plants.

Practical example:

We recommend installing chillers and recoolers that are operated with a water-glycol mixture with a Premium Plus AuRü collection and retention system. The collection trays provide a customised paved surface. Normally, the rainwater is collected in the AuRü collection and retention system and discharged into the sewage or mixed water channel via the tray outlet. The premium product from AuRü monitors both the system pressure and the medium that is discharged via the tray outlet. As soon as a leak is measured or detected, appropriate countermeasures are initiated.

- **§ 35 Special requirements for geothermal probes and collectors, solar collectors and refrigeration systems**

"..."(3) Outdoor solar collectors and refrigeration systems with liquid water-polluting substances do not require retention if

1. They are secured by automatic monitoring and safety devices in such a way that in the event of a leak, the circulating pump is switched off immediately and an alarm is triggered,
2. They only use the following substances or mixtures as heat transfer media: a) substances that are not hazardous to water or b) mixtures of water hazard class 1, the main components of which are ethylene or propylene glycol, and
3. Cooling units are installed on a solid surface...

Explanation:

Solar collectors and chillers for the air conditioning of buildings are very often arranged outdoors on the roofs of the buildings. According to paragraph 3 number 1, these systems must be secured in such a way that in the event of a leak the circulation pump is switched off and an alarm is triggered so that suitable countermeasures can be taken. In order to minimise possible water hazards, only non-water-hazardous substances or mixtures of WGK 1, the main components of which are ethylene or propylene glycol, are to be used as heat transfer media according to number 2. Number 3 requires the installation of the corresponding aggregates on a paved surface that enables orderly precipitation drainage (see § 19 paragraph 4).

As soon as you introduce the roof drainage into the dirt and mixed water sewer, the waste water ordinance of the federal states must be observed.

According to the Waste Water Ordinance § 3 paragraph 1, waste water may be discharged into a body of water if the pollutant load is kept as low as possible after examining the circumstances in the individual case....

(3) Requirements specified as concentration values may not be achieved by dilution contrary to the state of the art.

Example, a system operator must equip and monitor the refrigeration and air conditioning systems with a safety system. After detection and containment of a leak, controlled discharge into the sewage or mixed water sewer is permitted after consultation with and approval by the responsible authority.

What happens if damage occurs?

In the event of environmental damage, the Environmental Damage Act and the Environmental Liability Act apply. The operator is fully liable for damage caused by their systems, without maximum liability limits.
Insurance companies are only liable in the event of damage if planning, assembly and operation were carried out in accordance with legal requirements. An official permit does not protect the operator from penalties; companies are still liable for officially approved activities. Of course, the operator can make recourse claims against third parties who, as a specialist company or specialist planner, have been entrusted with the professional planning and execution.

Non-compliance with the WHG is also subject to a fine of up to EUR 50,000 - if damage occurs because the operator has not taken safety precautions for their machines for cost reasons, there are further costs such as cleaning the soil and restoration of the ecological balance.

The solution

At AuRü, we offer our customers security systems for the refrigeration and air conditioning industry and see ourselves as part of the solution. As a competent manufacturer of high-quality collection and retention systems for water-polluting substances, we offer oil and glycol collection systems in various designs. Our systems are state-of-the-art and meet current legal requirements.

AuRü – always one step ahead.

AuRü
GS Gesellschaft für Umweltschutz mbH

Safety First

AuRü | GS Gesellschaft für Umweltschutz mbH

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