

ELPARTS



herthundbuss.com/  
**SelectH<sub>2</sub>**

# SelectH<sub>2</sub>

Leak detection in air-conditioning  
and climate systems



**Passt immer!**

**HERTH+BUSS**

# ELPARTS

Electrics | Installation | Tools | Lighting

## From small to large – the whole range!

With our Elparts range we offer a comprehensive product spectrum that meets any requirement, from automobiles to commercial vehicles. This is our professional workshop solution and that's why we're always first choice.

### Our services for you:

- over 7,700 special parts
- comprehensive range for all vehicle types
- exactly fitting parts allocation
- professional solutions thanks to over 90 years of experience

**Passt immer!**



## ELECTRICS

Signal devices



Signal units



Relays



Control units



Switches



Actuators+Sensors



Voltage transformers



Inverter



Alternators+Starters



Wash water pump



Ignition system



## INSTALLATION

Connectors



Attachment parts



Cable straps



Gaskets+Grommets



Insulating tape



Hoses+Pipes



Cables+  
Cable connections



Battery accessories



Plug housings



Fuses



Plugs+Sockets



Assortments



## TOOLS

Release tools



Pliers



Service+Diagnostics



Measuring technology



Battery management



Processing+Installation



Workshop lamps



## LIGHTING

Daytime running lights



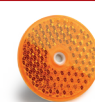
Headlights



Lights



Reflectors



Warning equipment



Connection sets



(Lamp) sockets



Bulbs











# SelectH<sub>2</sub> – Leak detection in A/C plants and cooling systems

**Our SelectH<sub>2</sub> family has been successfully established on the market. With this innovative technology, we offer automotive workshops a method of leak detection in passenger car and commercial vehicle A/C plants that saves time and money – and protects the environment.**

The use of forming gas achieves considerable time savings compared with fault detection using contrast agents and UV light. Even vibration leaks which are difficult to pinpoint can be easily found: our cylinder pressure regulator can be used to search for these with varying pressure. And this method also provides the answer to a well-known problem when using contrast agents: namely, if too much contrast agent is poured into the refrigerant circuit, the valves can stick – not just in the A/C plant itself, but also in the A/C service unit.

The location of leaks using forming gas, which consists of 95 % nitrogen and 5 % hydrogen, is a low-cost, efficient alternative. This method is extremely environmentally friendly and has an advantage in that hydrogen, as the smallest atom, can penetrate even the tiniest leakage points at higher concentrations than the refrigerant R134a itself. In this way, even the smallest leaks are tracked down in a very short time.

The function of the gas detectors is unique worldwide. The evacuated A/C plant is filled with test gas so that the non-flammable and non-toxic forming gas can be distributed evenly throughout the cooling system of the A/C plant. Leak detection can now commence. If a leak

exists, the extremely volatile hydrogen will escape at that point. The devices respond to a leak by means of an acoustic and one/two visual signal(s), indicating the measured quantity of hydrogen in ppm on the display. The SelectH<sub>2</sub> and SelectH<sub>2</sub> mini are each equipped with two gas sensors which work like an artificial nose and only respond to hydrogen, whilst the SelectH<sub>2</sub> also features a suction/priming pump. This prevents indications of petrol and oil vapours during leak detection. This is the most important difference to devices which respond to the refrigerant R134a. One major advantage is that the hydrogen itself can diffuse through the most minuscule hairline cracks, meaning that even very small leaks/leakages can be quickly and safely identified. With conventional equipment, it is almost impossible to locate very small leaks such as hairline cracks. After repairing the leak, it is recommended that another inspection be carried out using forming gas, followed by a function check.

SelectH<sub>2</sub> can also be used to test the heat exchanger for leaks. Provided no hydrogen escapes, there is no need for time-consuming dismantling of the dashboard. The device can also be used to test all closed systems into which the forming gas can be introduced.

# SelectH<sub>2</sub> mini – the selective gas detector for every workshop

The SelectH<sub>2</sub> mini comes with all the features essential for professional leak detection work. As such, this product made in Germany can even be used to test large A/C plants on trucks and buses/coaches economically and reliably. Whether thanks to the backlit LCD display, the battery state indicator or the ergonomic design of the plastic housing, the SelectH<sub>2</sub> mini leak detector guarantees sustainable and environmentally friendly leak detection. The flexible goose neck makes detecting leaks a much simpler affair.

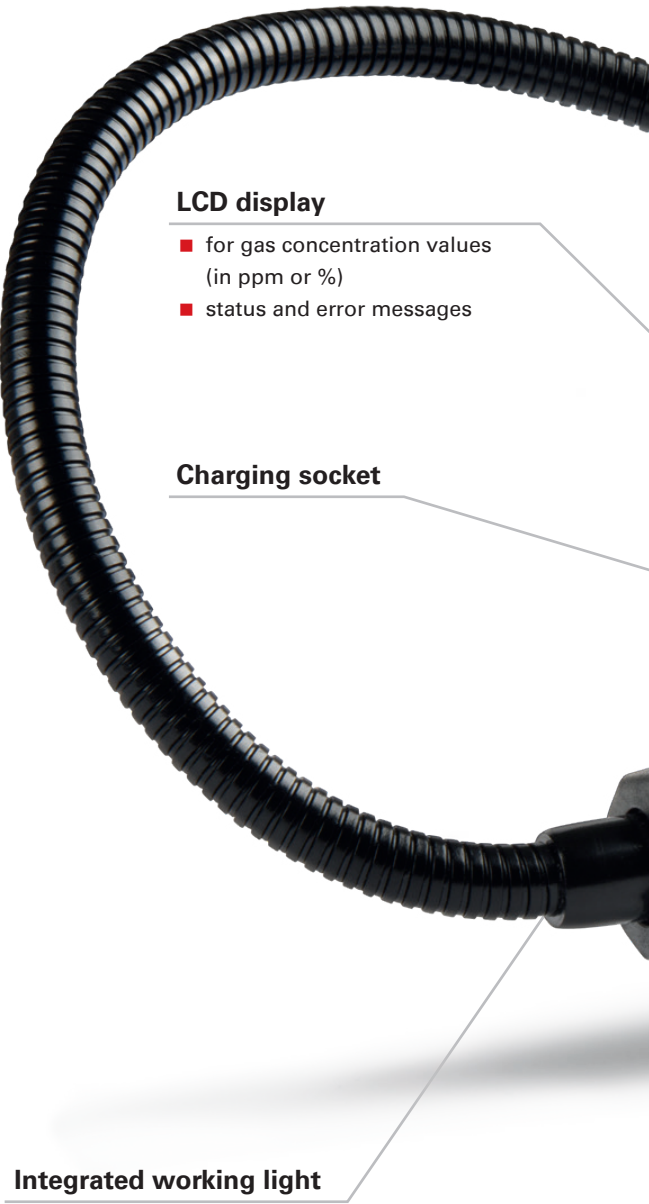
**But what differentiates it from its bigger counterpart, the SelectH<sub>2</sub>?**  
The SelectH<sub>2</sub> mini does not have a suction/priming pump. It works using diffusion and can already detect escaping gas at extremely low concentrations, in this case based on millionths (ppm). The SelectH<sub>2</sub> mini is also equipped with an integrated working light.

**BRIEF DESCRIPTION**

The high sensitivity of both gas detectors makes it possible to detect traces of gases in the ppm range. For reference, 1 ppm (part per million; number of particles per million other particles) equates to a quantity of 1 cm<sup>3</sup> gas in 1 m<sup>3</sup> air. With the SelectH<sub>2</sub> and SelectH<sub>2</sub> mini gas detectors, up to 999 ppm is measured on this scale.

In the transition to 1,000 ppm, the display switches to the vol. % range and changes to 0.1 vol. % (see the comparison values in the following table).

Part per million (ppm)	Volume percent (%)
1 ppm	0,0001 %
10 ppm	0,001 %
100 ppm	0,01 %
1.000 ppm	0,1 %
10.000 ppm	1 %
100.000 ppm	10 %
1.000.000 ppm	100 %





**Gas sensor**

- with flexible sensor extension

**"ON/OFF button" – Multifunction button**

- background display lighting and/or front LED: ON/OFF (press briefly)
- gas detector: ON/OFF (press and hold)

**"SET button" – Multifunction button**

- acoustic signal: ON/OFF (press briefly)
- if LEL (lower explosion limit, detected concentration > 4 %) is displayed:  
Clear LEL (press briefly)
- set background concentration to 0 ppm (press and hold)

**LED (operating status display)**

- After switching the device on
- briefly illuminates yellow
  - flashes green (during heat-up phase)



# The SelectH<sub>2</sub> types

It's your choice!



	SelectH <sub>2</sub>	SelectH <sub>2</sub>	
	95980002	95980024	
Gauge	with illuminated LCD display, with battery state display, with LED display	with illuminated LCD display, with battery state display, with LED display	
Length gooseneck	320 mm	500 mm	
Housing type	Aluminium housing	Aluminium housing	
Double sensors GG5 1000 / GGS 6000	broad band H <sub>2</sub> -selective	broad band H <sub>2</sub> -selective	
W x H x D	52 x 178 x 35 mm	52 x 178 x 35 mm	
With acoustic alarm	■	■	
With integrated work light			
With suction pump	■	■	
Automatic zero-point calibration in fresh air	■	■	
Automatic sensor check with error detection	■	■	
Power supply			
Output voltage	12 V	12 V	
Plug type	Round plug	Round plug	
Diameter	3,5 mm	3,5 mm	



SelectH <sub>2</sub> slim		SelectH <sub>2</sub> mini	
95980025		95980019	
with illuminated LCD display, with battery state display, with LED display		with illuminated LCD display, with battery state display	
500 mm		320 mm	
Aluminium housing		Synthetic material housing	
broad band H <sub>2</sub> -selective		broad band H <sub>2</sub> -selective	
52 x 178 x 28 mm		44 x 175 x 36 mm	
■		■	
		■	
■			
■		■	
■		■	
12 V		9 V	
Round plug		Round plug	
3,5 mm		2,5 mm	

# The SelectH<sub>2</sub> family

## Our products in an overview

 <p><b>SelectH<sub>2</sub></b> <b>Leakage detector, air conditioning</b> Workshop equipment for measurement of the hydrogen concentration</p> <p>length gooseneck: 320 mm with integrated suction pump</p> <p><b>95980002</b></p>	 <p><b>SelectH<sub>2</sub></b> <b>Leakage detector, air conditioning</b> Workshop equipment for measurement of the hydrogen concentration</p> <p>length gooseneck: 500 mm with integrated suction pump</p> <p><b>95980024</b></p>	 <p><b>SelectH<sub>2</sub> slim</b> <b>Leakage detector, air conditioning</b> Workshop equipment for measurement of the hydrogen concentration</p> <p>length gooseneck: 500 mm with integrated suction pump</p> <p><b>95980025</b></p>	 <p><b>SelectH<sub>2</sub> mini</b> <b>Leakage detector, air conditioning</b> Workshop equipment for measurement of the hydrogen concentration</p> <p>with illuminated LCD display, integrated work light and charger</p> <p><b>95980019</b></p>
 <p><b>SelectH<sub>2</sub></b> <b>Leak search set, air conditioning</b> Set Content: 95980000001, -002, -005, -006, 95980002, 95980002001</p> <p><b>95980006</b></p>	 <p><b>SelectH<sub>2</sub></b> <b>Extension set, leak search set</b> Content: 95980000007, -008, -009</p> <p><b>9598000010</b></p>	 <p><b>SelectH<sub>2</sub></b> <b>Compressed air hose</b> 3 m with connector parts</p> <p><b>95980000005</b></p>	 <p><b>SelectH<sub>2</sub></b> <b>Cylinder pressure regulator</b> inlet pressure to 200 bar outlet pressure 1-20 bar WW thread, with left-hand thread W21,8x1/14</p> <p><b>95980000006</b></p>
 <p><b>SelectH<sub>2</sub></b> <b>Adapter, air conditioning service unit</b> usable for refrigerant R 134a high pressure side</p> <p><b>95980000001</b></p>	 <p><b>SelectH<sub>2</sub></b> <b>Adapter, air conditioning service unit</b> usable for refrigerant R 134a high pressure side</p> <p><b>95980000008</b></p>	 <p><b>SelectH<sub>2</sub></b> <b>Adapter, air conditioning service unit</b> usable for refrigerant R 1234yf high pressure side</p> <p><b>95980000011</b></p>	 <p><b>SelectH<sub>2</sub></b> <b>Adapter, air conditioning service unit</b> usable for refrigerant R 1234yf low pressure side</p> <p><b>95980000012</b></p>



# Practical example

## Leak detection with SelectH<sub>2</sub>

### Evacuation



Evacuate the A/C plant using a suitable A/C service station.

### Filling with forming gas 95/5



Now fill the high-pressure side of the A/C plant. Using the leak detection set extension kit, the high- and low-pressure sides can be filled simultaneously.

### Heating up the device



The heat-up phase is signalled by the word „HEAT“ and lasts approx. 50 seconds.

### Leak detection



Feed the gas detector along the top of the hose connections and components at a steady speed. You can read out the respective hydrogen concentration on the display. Rising ppm values indicate a leak.

### Locating the leak



Leaks are also indicated by means of acoustic and visual signals.

### Repair and inspection



After repairing the leak, it is recommended that another inspection be carried out using forming gas, followed by a function check.

### Filling with refrigerant and testing leak-tightness



Then fill the A/C plant with the appropriate refrigerant. Finally, perform a function check.

# Interesting as well!

## AirClean – Professional A/C disinfection

Completely non-hazardous, highly effective and purely mineral

We have substantially expanded our portfolio of A/C system maintenance products: our AirClean system (spray pistol and A/C system cleaner) available from the Elparts range disinfects the vehicle interior and its A/C system with a minimum of effort, reducing germs, fungi, viruses and bacteria in the process. AirClean is suitable for all vehicles – from cars to utility vehicles, mobile homes to construction vehicles, tractors and agricultural machinery. It is also ideal for vehicles that are subject to frequent changes of user, as is the case for fleet management, vehicle rentals and passenger transport (taxis, buses and trains). There are many scenarios where using AirClean makes perfect sense, especially in workshops: before selling a vehicle, after buying a used car, for purging the A/C system of pollen and spores and as an effective measure against mould. What's more, we give workshops the opportunity to perform vehicle disinfection after repairing the A/C system – without significant deployment of personnel and without harming the environment. This is an interesting added benefit for the customer.

**What is AirClean and what are its advantages?**

AnoKath forms the basis of the AirClean cleaner. It is a powerful oxidising agent consisting of an aqueous solution with a low sodium chloride content and prepared by means of a special electrolysis

process. The special AirClean cold atomiser is able to generate floating mist from a liquid in conjunction with a compressor. The disinfection using AnoKath is based on mineral substances. The benefits are obvious: only low material costs are incurred and the time required to perform a disinfection like this is minimal. There is no need to wait after using AirClean: you can continue working inside the vehicle immediately. In other words, there is no danger of contaminating workshop staff members.

**How does AirClean work?**

The disinfectant can be fed into the car from outside, i.e. through the A/C system's air intake, or from within by setting the device up in the passenger compartment. The cold mist is extremely light and floats for a long time. This means that it even gets behind all panels and reliably kills germs, spores, bacteria and viruses in doing so. When the vehicle's air circulation system is running, the active substance is conveyed throughout the vehicle interior and into the A/C system, which is also disinfected in the process. The user is able to determine the path that the mist should take by directing the pistol's outlet and by opening and closing the intake ducts and/or ventilation louvres.

 <p><b>AirClean Spray Gun</b></p> <p>fill capacity to: 1 l with hose compressed air supplies: 1 for article no.: 95923008/-009</p> <p><b>95921002</b></p>	 <p><b>AirClean Air Conditioning Cleaner</b></p> <p>contents: 1000 ml operating temperature 20-25 °C for article no.: 95921002/-004</p> <p><b>95923008</b></p>	 <p><b>AirClean Spray Gun</b></p> <p>fill capacity to: 5 l with hose compressed air supplies: 1 for article no.: 95923008/-009</p> <p><b>95921004</b></p>	 <p><b>AirClean Air Conditioning Cleaner</b></p> <p>contents: 250 ml operating temperature 20-25 °C for article no.: 95921002/-004</p> <p><b>95923009</b></p>
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# All the benefits at a glance

## Safe, non-hazardous vehicle disinfection with AirClean

With AirClean, Herth+Buss is able to offer a highly effective alternative method of vehicle disinfection which is completely non-hazardous to people and the environment, operates on a purely mineral basis and is currently the only system of its kind. The most significant advantages and properties of AirClean can be found in the following overview:

### ■ AirClean works on a purely mineral basis

The active substance does not contain any toxic substances or aggressive chemicals and is 100% biodegradable. Users are not exposed to contamination while working, as the agent is perfectly non-hazardous for people, health and the environment.

### ■ AirClean is highly effective

The active substance is proven to be highly effective and reliably eliminates mould, viruses and bacteria.

### ■ AirClean is quick and easy to use

A large quantity of mist can be generated in a very short time using the spray pistol. This mist is so fine that it gets into every recess in the vehicle. This enables the entire interior of the vehicle to be filled with aerosol in addition to the A/C system. The time required is around five minutes.

### ■ AirClean is highly flexible in operation

The user is not tied to a certain position thanks to the hand-held device. What's more, various surfaces can be treated more gently or intensively as required. Conventional electric atomisers are unable to offer this kind of flexibility.

### ■ AirClean is maintenance-free

The device does not require any kind of maintenance. Simply rinse it out with tap water after use and that's all.

### ■ AirClean guarantees allergy sufferers protection and hygiene

AirClean is not only suitable for disinfecting A/C systems. It can be used anywhere that safety and hygiene are of paramount importance. Allergy sufferers in particular stand to benefit from its effects.





## Good to know

### Invisible hazard

Investigations have shown that the GWP (Global Warming Potential) value of R-134a is around 1,300 times higher than that of CO<sub>2</sub>. According to experts' estimates, around 820 tons of the refrigerant R134a are released into the atmosphere each year. This equates to a quantity of one million tons of CO<sub>2</sub>, although losses caused by accidents and repair work cannot be taken into account for the purposes of the calculation. Since August 2008, the new Chemical Climate Protection Ordinance has therefore been in force, imposing on workshops a legal obligation to eliminate any leaks in a system before it can be refilled with refrigerant.

As of 1 January 2017, R-134a will be forbidden in all new cars across Europe. This means that R-134a will gradually need to be replaced by new refrigerants that minimise the greenhouse effect.

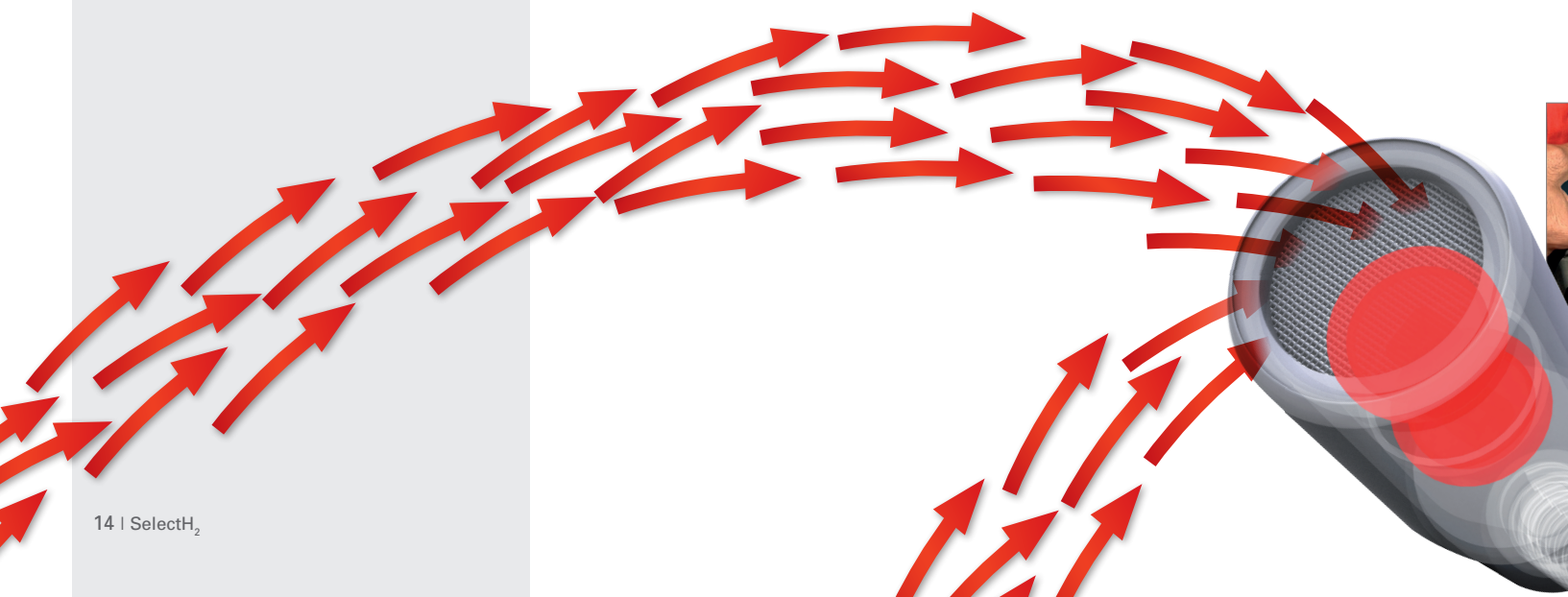
### Refrigerant HFO-1234yf

Since as long ago as January 2011, the refrigerant HFO-1234yf has been used in passenger car A/C plants with new type approvals. This means that the proportion of vehicles with A/C plants containing this refrigerant is constantly increasing. Workshops will need to get used to the fact that they have to handle this new refrigerant in the future.

# All the benefits at a glance

**Our selective gas detectors SelectH<sub>2</sub> and SelectH<sub>2</sub> mini offer you a time-saving and above all environmentally friendly option for very quickly pinpointing even the smallest leaks in A/C plants.**

- Defective evaporators can be reliably diagnosed by removing the regulator resistor, for example. You can therefore avoid the unnecessary and time-consuming removal of the dashboard caused by false diagnosis.
- False diagnoses caused by oil and petrol vapours can be ruled out as the sensors only selectively respond to the hydrogen contained in the forming gas.
- It is possible to test all closed systems if the forming gas can be introduced to them (e.g. radiator, pneumatic brake systems, etc.).
- The devices are suitable for vehicle dealers or appraisers to use for assessing vehicles which have been involved in accidents. A defective A/C plant can have an impact on the residual value of a vehicle.
- The A/C plants of passenger cars, commercial vehicles and buses alike can all be tested.
- Suitable for both A/C plants with R134a and those with HFO-1234yf.
- Forming gas is cheap to procure. In addition, it is environmentally friendly, non-toxic and also very safe due to being non-flammable.
- The products SelectH<sub>2</sub> and SelectH<sub>2</sub> mini are made in Germany.
- The function of these devices is unique amongst mobile devices worldwide and exclusively available from Herth+Buss.
- High sensitivity and susceptibility of the sensor system, which can even detect concentrations in the ppm range.



# A/C servicing

## Experience leak detection live!

### Leak detection and disinfection of A/C systems

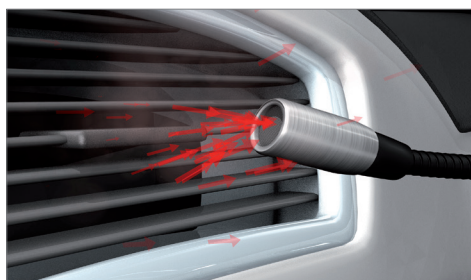
Our selective gas detectors SelectH2 and Select H2 mini offer a time-saving and above all very environmentally friendly alternative for quickly tracking down leaks in A/C plants. In the training course, our workshop field service uses a tester and test model to show how even the most minor leak can be found in no time at all. And so you can enjoy a live demonstration of all the advantages.

#### Information:

<b>Target group:</b>	Workshops
<b>Duration:</b>	1.5 hours
<b>Training location:</b>	customer premises

#### Seminar content:

- function of the selective gas detectors in theory and practice
- current state of European Union directives, standards and norms
- special solution for vehicle electrics
- example applications
- the Climate Protection Ordinance and its implementation
- components and their functions
- forming gas and its advantages
- disinfecting the A/C system with AirClean
- function of the AirClean products
- the benefits of AirClean



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