



20**25** issue

Product Guide



Tools and consumable solutions to make
your job easier and get it right first time.

We provide the means to diagnose, locate and prevent fluid leakage from hydraulics, engines, cooling, air conditioning and refrigeration systems.

Improving quality control and making A/Cs systems cool the air faster, work better and last longer.



Founded in 1979, we have been designing, producing and packaging specialist products in Kent for 45 years, as well as working with suppliers and customers all over the globe.

As the leading UK producers of fluid Leak Control and Air Conditioning Service Solutions for both OEM production lines and aftermarket service, we serve automotive, refrigeration and air conditioning, and other industries too.

Primalec's leak control solutions are supplied to vehicle and engine manufacturing plants, as well as aftermarket distributors, with more than 50% of our production exported worldwide. Together with NitroTrace and Leaktronic, Glo-Leak® UV detects fluid leaks in vehicle engines, coolant, fuel and hydraulic systems, industrial machinery, construction plant, air conditioning and refrigeration installations.

In the aftermarket, air conditioning is Primalec's core offering. Our expertise in this technical discipline, built up over many years, makes us the natural choice for your A/C servicing needs, including lubricants, cooling performance accelerators, refrigerant leak detection, prevention and repair, sanitising and purifying, system flush and cleanse and retro-fit products.

Our UK produced range includes Airco Seal Pro & HAVCR Seal Pro refrigerant sealants, Glo-Leak UV tracer dyes, Airco Flush, Glo-Klenz, Invictalux inspection tools, Concertina & Vac-U-Can injection systems, Airco Shield sanitisers, some of our NitroTrace products, and some of our AC&R lubricants. We also work with premium manufacturers in USA, Europe, and Taiwan to deliver the solutions that you need to make your job easier.

Our liquid products are packaged at our plant here in Kent in a wide range of proprietary and other containers, along with our many other UK made products. And our new Italian division, Primalec s.r.l. adds more capacity and flexibility to our customer and supplier partners.

Working with you at both OEM and aftermarket levels, we can supply directly or via Tier and 3rd party service providers, distributor partners and wholesalers.

I am sure that our products and solutions will help you to solve problems and make your job easier.

Richard Doran
Director



Some of the great businesses who benefit from using Primalec solutions:



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USX3 Ultrasonic Diagnostic

Listen to the inaudible



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Purifier2

Deodorise, Sanitise, Purify without chemicals



Page 29

NitroTrace Leaktronic



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Airco Bio Flush

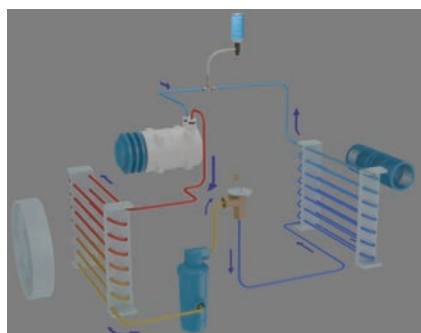
A single treatment internal coil cleaner and flush with the advantageous characteristics



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Glo-Leak UV Vac-U-Can

The quickest, cleanest most precise way to inject UV fluorescent dye



Page 27

Snow Leopard Oils



Page 19

Detect tiny leaks that the eye normally misses

Undetected leaks can be a major cause of equipment failure and/or environmental contamination. Assuring the integrity of equipment that relies on tight retention of fluids or refrigerants for safe, efficient and reliable operation can be critical to your business and professional reputation. The Glo-Leak® UV method offers a simple and reliable method of achieving this.



View our videos



Without Glo-Leak®



With Glo-Leak® UV

Primalec has been blending UV fluorescent leak tracer fluids in the UK for 38 years under our Glo-Leak® trade mark.

Glo-Leak® UV is a series of special tracer fluids whose fluorescent properties make them glow under UV light. They are organic compounds which ionically bond to a substrate. Unlike pigments, these colourants are transparent.

We produce them in standard and custom formulations for many sectors, including Automotive, Air Conditioning & Refrigeration, Marine, heavy industry and more.

We understand the chemistry, the tribology, and your market. When you need to find leaks, you need to speak to Primalec.

Typical applications for OE Manufacturing and aftermarket service:

- A/C & Refrigeration - refrigerant and lubricant leakage, mobile and static
- Engine and transmission lubricants
- Fuel system leakage
- Hydraulic oils in construction plant, off-road, agricultural, industrial equipment, cranes
- Automotive coolant systems
- Windscreens and body work

In production environments and in after-sales service and support, Glo-Leak® UV testing is key to quality control and maintaining peak equipment performance.



The following pages describe the different fluid formulations and UV light sources that you need for your business processes.

No special equipment other than the UV Leak Tracer lamp is needed, and there is little or no interruption to the system's day to day operation or to your working routine.

Whichever system is being tested the basic procedure is the same:

01

STEP ONE

Add or inject the appropriate Glo-Leak® UV fluid and operate the system.

02

STEP TWO

Scan the external surfaces with the UV Leak Tracer Lamp to pin-point the leak source.

03

STEP THREE

Repair any leaks, clean the leak area and re-scan with the UV lamp to ensure leaks are repaired.

Get it right the first time – with Glo-Leak® UV

Production line and QA leak testing

Use Glo-Leak® UV to quality control all your vehicles, engines, machine tools and equipment before sending them to your distributors and customers. Also use it for routine leak testing of hydraulic production line machinery.

Used in a wide range of industries including vehicle assembly and engine plants, OEM grade Glo-Leak® UV fluorescent test fluids are added at dosage rates from as little as 200ppm (0.02%) to create the fluorescent response you need for Quality Control of potential fluid leakage.

A slight discoloration may occur, but no contaminants are added to the host fluid, and as there is no physical change to the host liquid, there is no need to flush and recharge the system after testing. Glo-Leak® treated fluids can be left harmlessly in the system until the next routine change is due.

Why not add Glo-Leak® UV testing to routine maintenance programmes for all your oil filled machine tools?

The new fuchsia pink fluorescing Glo-Leak® UV 1486, allows a clear contrast with the yellow fluorescing tracer fluids commonly used in engines and transmissions. This allows you to test two adjacent systems with different fluorescing colours, while avoiding the risk of false diagnosis



The chart below shows the most popular blends, but we regularly customise products for different host fluids and specific operational and packaging needs, including single dose bottles from 5ml upwards.

Code	Description	Pack	Dosage in ppm	Liquid treated up to	Applications	UV light	Fluoresces
GL1400B	Glo-Leak® 131 for mineral and semi-synthetic oils Extra strong OEM oil leak testing in engines	1 litre	250-500 (1:4000 to 1:2000)	2800 litre		365nm	Yellow
GL1400C		5 litre		14,000 litre			
GL1400-20		20 litre		56,000 litre			
GL1400-200		200 litre		560,000 litre			
GL1465B	Glo-Leak® 1465 for hard to fluoresce OEM oils OEM leak testing of engine and hydraulic oils with UV masking additives	1 litre	500-1000	2,000 litre		365nm	Yellow
GL1465C		5 litre		10,000 litre			
GL1465-20		20 litre		50,000 litre			
GL1466B	Glo-Leak® 1466 for OEM hydraulic systems OEM leak testing of hydraulic oils and engines with UV masking additives	1 litre	500 (1:2,000)	2,000 litre		365nm	Yellow
GL1466C		5 litre		10,000 litre			
GL1466-20		20 litre		50,000 litre			
GL1486A	NEW FORMULA Glo-Leak® UV Pink Fluorescent tracer - non-polar oils OEM leak testing where colour contrast is required	250ml	500 (1:2,000)	500 litre		365nm or 400nm	Pink
GL1486B		1 litre		2,000 litre			
GL1490B	Glo-Leak® 1490 for large water based systems Leak testing of large scale water cooling installations	1 litre	50-100 (1:20,000)	20,000 litre		365nm or 400nm	Yellow
GL1490C		5 litre		100,000 litre			
GL1490-20		20 litre		500,000 litre			

Automotive Aftermarket leak testing

The same test method used in many vehicle and engine production environments, these aftermarket grades of Glo-Leak® UV give you OEM standards of quality control in the aftermarket.



L-R GL1486A – GL1396 – GL1310B – GL1390A – GL1310P/S

Detect leaks of engine oils, petrol and diesel fuels

Glo-Leak® 1310 is designed for use with a 365nm UVA light source and is perfect for all mineral oil based lubricants and hydraulic fluids.

Glo-Leak® 1312 is formulated to react better with near UV light sources in the 390-410nm range, as well as traditional 365nm UVA lights. Glo-Leak® 1312 is also tuned to work better with some synthetic and semi-synthetic engine oils.

Detect automotive cooling system leaks

Glo-Leak® 1390 is for water cooled systems. Add Glo-Leak® 1390 to the radiator or expansion bottle (when the engine is cool) at the rate of 10ml per 3 litres of coolant, and find the coolant leaks you would otherwise have missed.

Detect rainwater ingress and wind noise

Glo-Leak® 1396 is for bodywork, windscreens, door seals, etc.

Use Glo-Leak® 1396 to find rain water leaks in windscreens, door seals, boot lids, etc., at the rate of 25ml per 10 litres of water. Apply the mixture externally to the suspected areas with a hand sprayer or a pressurised hose system. When you inspect with a UVA or UV-Blue light from the inside of the vehicle, look for a blue glow

Combine ultrasonic with Glo-Leak® 1396, and you'll be sure to catch all the leaks. See page 15

Code	Description	Pack	Dosage per 5 litres	Applications	UV light	Fluoresces
GL1310A	Glo-Leak® 1310 for automotive oils and fuels For Aftermarket leak testing in engines	250ml	Clean oil: 10-15ml		365nm	Yellow
GL1310B		1 litre	Dirty oil: 25ml			
GL1310S		6 x 25ml	Fuels: 5-10ml			
GL1312A	Glo-Leak® 1312 for automotive oils and fuels Aftermarket leak testing in engines using synthetic oils with UV-masking additives	250ml	Clean oil: 10-15ml		365nm or 400nm	Yellow
GL1312B		1 litre	Dirty oil: 25ml			
GL1312S		6 x 25ml	Fuels: 5-10ml			
GL1390A	Glo-Leak® 1390 for automotive coolants For Aftermarket leak testing of coolant systems	250ml	10ml		365nm or 400nm	Yellow
GL1390B		1 litre				
GL1390S		6 x 25ml				
GL1396A	Glo-Leak® 1396 for rainwater ingress For rainwater ingress and wind noise leakage	250ml	12.5ml		365nm or 400nm	Blue
GL1396B		1 litre				
GL1396S		6 x 25ml				

Every time you do an Automotive leak test with Glo-Leak® UV in Automotive a donation is made to BEN. For more information about how BEN may help you and your family, visit www.ben.org.uk

Proud to support  Support for life



UV lamps See page 7
Leak tracer kits See page 8

Mobile air conditioning

Glo-Leak® UV has been successfully and safely used in mobile air conditioners since the dying days of R12 and CFC refrigerants over 37 years ago. Glo-Leak® for Mobile A/C is engineered using the very best and purest ingredients to give the brightest fluorescence with the smallest dose size.

Carefully packaged in our unique moisture barrier dispensing containers, our hermetic bellows cartridges, and now in our unique Vac-U-Can, Glo-Leak® for A/C contains no added solvents, and will work brilliantly with a good UVA 365, UV400 or UV+Blue tracer lamp.

For R1234yf as well as R134a & R456a systems – belt driven & electric compressors.

Glo-Leak® 1234 is great for finding leaks of R1234yf as well as R134a and R456a and even R12– whether in a motor driven or electric compressors. It is specially formulated to mix with R1234yf but also gives superior performance to R134a and R456a retrofits too. Just as additional special processes are required to produce PAG & POE lubricants for R1234yf, the same is true of this Glo-Leak formulation. Glo-Leak 1234 is backward compatible with R134a and other refrigerants. You can add Glo-Leak into an A/C system via your A/C service machine or with an injector, or via the proprietary pre-filled hermetic Concertina bottles on your machine, or with our unique new Vac-U-Can system.

For CO₂ systems

Glo-Leak® 1744 is for A/C systems using CO₂ refrigerant. The very high operating pressures required for CO₂ need a leak tracer additive that can cope with those high pressures. For Extreme Performance CO₂ PAG lubricants, please see page 23.



Vac-U-Can is the quickest, cleanest most precise way to inject Glo-Leak® UV into A/Cs. See how on page 27

L-R: GL1234A-GL1744A, GL1234Y, GL1234W, GL1234X, GL1234J

Code	Description	Pack	Applications	UV light	Fluoresces
GL1234A	Glo-Leak® 1234 for MAC R1234yf - R134a - R456a For mobile air conditioning service - with R1234yf - R134a - belt driven or electric/hybrid compressors	250ml: Disp. bottle 50+doses		365nm or 400nm	Yellow
GL1234B		60ml: Inj. Concertina 10 dose			
GL1234X		1 litre: Disp. bottle 200+doses			
GL1234-125Y		125ml: Machine Concertina			
GL1234-125W		125ml: Machine Concertina			
GL1234J	Glo-Leak 1234 for MAC R1234yf - R134a - R456a Single dose - NEW Vac-U-Can system	1x 5ml Vac-U-Can		365nm or 400nm	Yellow
GL1234J-12		12x 5ml Vac-U-Can			
GL1234J-12H		12x 5ml Vac-U-Can + hose set			
AC2941MAC	Vac-U-Can Charge hose set Automotive A/C	Hose set & couplers 1/4"/R134a/YF			
GL1744A	Glo-Leak® UV 1744 for CO ₂ For mobile CO ₂ air conditioning service	250ml : Disp. Btl		365nm or 400nm	Yellow

Static and marine air conditioning and refrigeration

Primalec first supplied Glo-Leak® UV/AC&R to the marine refrigeration industry in the late 1980s when refrigerant leakage became an environmental issue. Since then Glo-Leak® has been successfully and safely used to find refrigerant leaks quickly and reliably in every type of commercial, industrial, marine and mobile air conditioner and refrigeration system, and with all types of compressors.

Glo-Leak for AC&R is engineered to give the brightest fluorescence at the smallest dosage rate with all common refrigerants and lubricants, when using a good UVA 365, UV400 or UV+Blue tracer lamp. Carefully packaged in our unique moisture barrier dispensing containers, our hermetic cartridges, and now in our 1-dose hermetic Vac-U-Can, Glo-Leak contains no added solvents.



For commercial A/C - all refrigerants

Glo-Leak® 1384 is for small to medium sized commercial AC&R systems, including those with hermetic electric compressors. Use one dose of 5ml for up to 1 litre of lubricant. Add it to the system via the oil sump if present, or with a Primalec injector.

Commercial/Industrial AC&R - all refrigerants

Glo-Leak® 1484 is for Commercial, Industrial and marine A/C & Refrigeration. At more than double the concentration of Glo-Leak® 1384, it is suitable for larger AC&R systems and for use with mini-dose injectors. Use 2.5ml per litre of lubricant.

Glo-Leak UV for CO₂ systems

Glo-Leak® 1744 and **2744** are for Refrigeration & Air Conditioning systems using R744 (CO₂) as a refrigerant. The very high operating pressures required for CO₂ need a leak tracer additive that can cope with those high pressures. GL1744 is for use in smaller commercial systems including mobile A/Cs. GL2744 is for use in larger commercial and industrial systems with its higher concentration of fluorescing power. For Extreme Performance PAG lubricants for CO₂, please see page 22.



Glo-Leak UV Vac-U-Can

GL1484J NEW the quickest, cleanest, most precise way to inject UV fluorescent dye

- Flashes into refrigerant as a mist
- Premixes with system's own refrigerant before entering
- Rapid distribution
- Very stable
- One can for all systems up to 20kW, more for larger systems
- Made in UK

See how it works on page 27

Code	Description	Pack	Applications	UV light	Fluoresces
GL1384A	Glo-Leak® 1384 For refrigeration and air conditioning service - all refrigerant types	250ml: Disp. bottle		365nm or 400nm	Yellow
GL1384-30Y		30ml: Concertina			
GL1384S		6x30ml: bottle			
GL1384B		1 litre: Disp. bottle			
GL1484A	Glo-Leak® 1484 For refrigeration and air conditioning service - all refrigerant types - high strength	250ml: Disp. bottle		365nm or 400nm	Yellow
GL1484X		60ml: Concertina			
GL1484B		1 litre: Disp. bottle			
GL1484J		1x5ml Vac-U-Can			
GL1744A	Glo-Leak® 1744 for MAC & smaller CO2 systems. Designed for extreme CO2 pressures	250ml: Disp. bottle		365nm or 400nm	Yellow
GL2744A	Glo-Leak® 2744 for larger commercial & industrial CO2 systems. Designed for extreme CO2 pressures	250ml: Disp. bottle			
GL2744B		1 litre: Disp. bottle			

Every time you do an Automotive leak test with Glo-Leak® UV in Automotive a donation is made to BEN. For more information about how BEN may help you and your family, visit www.ben.org.uk

Proud to support  Support for life



UV Leak tracer combi kits

This is a selection of our popular leak tracer sets containing the equipment and consumables that you need to find leaks of refrigerants, oils and coolants.



GL2230B

Concertina injector set for mobile A/C with 1x GL1234X cartridge, R134a & R1234yf snap couplers.
Also available as GL2330A with R134a coupler only.



INV2021X1

New Invictalux 2021UV4 UV-400 tracer lamp with GL2230B Concertina injector set in our aluminium framed case.
R134a & R1234yf Automotive snap couplers included.



UV2161X1

MiniBright UV-400 torch with GL2230A Concertina injector set in plastic case 1P.
R134a Automotive snap couplers included.



AC2685UV

Refrigerant leak tracer Combi set Leaktonic™ & UV

Leaktonic™ 5 refrigerant detector plus UV2165 Mini Pro UV365 tracer torch and battery charger in CASE2.



Glo-Klenz ready-to-use (RTU)
Cleans off Glo-Leak® and more

Citrus based biodegradable multi purpose hard surface cleaner/degreaser designed to remove Glo-Leak UV test fluids, as well as oil, grease and carbon. Glo-Klenz is also effective in removing adhesives, dirt, tar, and gummy deposits.

Usage rates in typical applications

The product is ready to use from the bottle, but for milder applications Glo-Klenz may also be diluted down to as little as 50:1 to clean hard surfaces such as floors, vehicles and work surfaces.

GL1901A

Glo-Klenz RTU 250ml

GL1901H

Glo-Klenz RTU 500ml



INV2021X3 & INV2021X3R

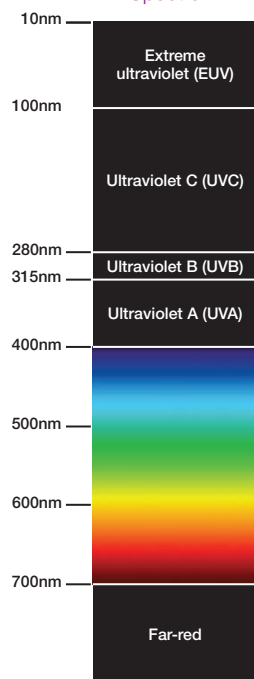
AC&R leak detection kit X3

Invictalux INV2021UV4, Glo-Leak GL1384A, Mini-RotaJect fluid injector, Extra-Glo safety glasses, adapters for vehicle A/Cs R134a & R1234yf, aluminium framed case.

INV2021X3R excludes Auto adapters.

UV technology makes the invisible visible – and much more

Electromagnetic
Spectrum



Ultra violet light has many uses including sterilisation, resin and glue curing, tanning, skin treatment, and fluorescent disclosure in forensic, security, medicine, NDT and leak detection. These different applications use different wavelengths of light, e.g. UVC, UVB and UVA, and therefore need different types of UV light sources often at very specific wavelengths in the Electromagnetic spectrum.

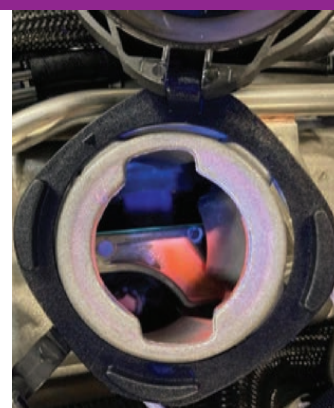


Primalec uses ozone generating UVC in the Purifier sanitising machines on page X and UVA in the Medway windscreen repair resin curing lamp and in our UV fluorescent leak tracer lamps.

Our Glo-Leak® UV Leak Tracer programme for detecting fluid and refrigerant leakage is now entirely based on LED technology. These LEDs operate within tight wavelength bands 365nm +/-5nm, and 400nm +/-5nm in the electromagnetic spectrum.

UV light sources with a 365nm peak will fluoresce all commonly used leak test fluids (and many other fluorophores). They emit very little visible light, especially when fitted with a black bandpass filter, which means you get the best fluorescent contrast. UV light is itself invisible up to about 375nm, which is why 365nm models are referred to 'blacklights'. Many materials and fluids, including our refrigerant Glo-Leak® UV dyes also react very well to light in the 'near UV' range (around 400nm).

A good, reliable UV light source is a key element of any effective UV-Fluorescent leak test, forensic, security, infection control or UV curing. We have a great choice for you in the chart below.



Our new Pink fluorescing Glo-Leak dye
in an engine component

Code	Description	Wave-length in nm Range Peak(s)	Max Power (365nm) @38cm	Beam	Battery	Length mm	Head Ømm	Lamp Wt.*	Case included
Near UV inspection lamps and torches with a 400nm peak - best for AC&R tracer dyes									
UV2161	Mini Bright leak tracer torch	397 - 405 403	-	Reflector Spot	3x AAA Alkaline	225	32	119g	No
INV2021UV4	INVICTALUX MkIII 3W UV-400 inspection torch	395 - 407 403	-	Reflector Spot	3x AA Alkaline	225	32	257g	INV2021A
UV2168	Tracer Pro ZS1 UV400 zoom/strobe insp set	395 - 405 403	25000 µW/cm²	Spot-Flood-Zoom	1x 18650 Li-Ion	158	46.5	215g	UV2168A
UVA inspection lamps and torches with a 365nm peak - Good for all, best for mineral oils in engines, hydraulics, etc.									
UV2165	Mini Pro UV365 rechargeable tracer torch set	360 - 370 365	25000 µW/cm²	Reflector Spot	1x 18650 Li-Ion	135	31.5	137g	UV2165A
UV2170	Tracer Pro ZS2 UV365 zoom/strobe insp torch	360 - 370 403	25000 µW/cm²	Spot-Flood-Zoom	1x 18650 Li-Ion	158	46.5	215g	UV2167A
UV2175	Tracer Pro 4.1 UV365 rechargeable pistol light	360 - 370 365	40000 µW/cm	Mid beam	4x 18650 Li-Ion	105x180	59	655g	300CF
UV2167	Tracer Pro 5.1 UV365 rechargeable Blacklight	360 - 370 365	50000 µW/cm²	Mid beam	4x 18650 Li-Ion	152	69.5	640g	300CF

Various kit combinations are available.

See the full Invictalux inspection range on page 17. *Lamp weights include batteries.

We recommend our Extra-Glo glasses (SP301UV) to protect against UV light sources and enhances fluorescent contrast in leak detection (right).

UV2161

Mini Bright UV400 leak tracer torch



This UV400 tracer light is a great low cost light for finding refrigerant and oil leaks in HVAC&R systems. It is powered by three AAA alkaline batteries which last up to 3 hours of continuous use.

- 3W single chip UV395 LED + reflector
- 3x premium AAA batteries included
- Handy pocket size
- Extra-Glo glasses included (not in UV2161D)
- Great value

INV2021UV4

Invictalux MkIII 3W UV-400 inspection torch



Still made in the UK, Invictalux-3 is the premium UV400 torch gives brilliant fluorescence to Glo-Leak® fluids.

- The latest 3W single chip UV-LED and reflector gives brilliant fluorescence
- Brass contact on MkIII light head
- Strong easy grip Santoprene covered aluminium handle
- Interchangeable light heads
- 3 premium brand AA batteries & Extra-Glo glasses included
- Also available with flexible Swan Neck extender and in various cased kits
- Also available with 365nm light head
- Part of the Invictalux modular system – see our Bore 7 Cavity Inspector on page X

UV2165

Mini Pro UV365 rechargeable tracer torch



This 365nm tracer light is a true blacklight at an accessible price, and is still small enough to fit in the pocket. Supplied either with a single slot charger and one Li-Ion battery or, as UV2165A, in our aluminium framed case no 5 with two batteries and a double slot charger.

- Single chip 3W UV365 LED + reflector
- Up to 25,000 µW @ 38cm
- 3cm spot @ 38cm
- Good for all leak detection
- Li-ion rechargeable battery & charger included
- 3-5 hrs run time
- Extra-Glo glasses included
- Carry case included in UV2165A

UV2170

Tracer Pro 4.1 UV365nm



Tracer Pro 4.1 pistol grip UV lamp operates at 365nm, the ideal wavelength for most fluorescent detection and disclosure requirements, including leak detection, and many other fluorescent applications. Four single chip LEDs provide up to 40,000µW of fluorescing power.

- Pistol grip handle for comfort
- 4x single chip UV365 LEDs with individual reflectors
- Up to 40,000µW @ 38cm
- 30cm spot at 38cm
- Excellent at long range
- 3 hours run time (typical)
- Extra-Glo glasses, 4 Li-ion batteries, 4-slot charger
- Heavy duty watertight IP67 carry/storage case

UV2168

Tracer Pro ZS-1 UV400



This compact multi-modal UV spotlight operates in the 395-405nm waveband and has an adjustable telescopically focussed beam.

As well as the zoom facility, it can operate in 3 modes: High – Low – Strobe, which is ideal for fluorescent leak detection of materials that react to near UV and blue light. The strobe causes the leak source to flash on and off, making micro leaks easier to see.

- Single chip UV395 LED
- 7cm spot zooms out to 33cm @ 38cm
- Multi-modal: High-Low-Zoom
- Li-Ion battery and charger included
- 3-5 hrs run time
- Lamp, battery and Extra-Glo glasses
- UV2168A also has carry case and spare battery

UV2167

Tracer Pro ZS-1 UV365

The same body and features as UV2168, but with 365nm output.

UV2175

Tracer Pro 5.1 UV365



Tracer Pro 5.1 pistol grip UV lamp operates at 365nm, the ideal wavelength for most fluorescent detection and disclosure requirements, including leak detection and many other applications too. Five single chip LEDs provide up to 50,000µW of fluorescing power, and its blacklight filter eliminates most of the visible light for better contrast.

- 5x single chip UV365 LEDs with individual reflectors
- Up to 50,000µW @ 38cm
- 135cm spot at 38cm
- Excellent at long range
- 2 ½ hours run time (typical)
- Extra-Glo glasses, 4 Li-ion batteries, 4-slot charger
- Heavy duty watertight IP67 carry/storage case

AC2092GB

N₂/H₂/H₂ Regulator, single stage
for refillable cylinders

300 bar in (BS341) 10 bar out (1/4" SAE male)

Input cylinder fittings are also available to order,
including for France, Germany & Italy.



AC2091M

N₂ & N₂/H₂ Regulator single stage
for non-refillable cylinders

150 bar in (10mm) 10 bar out (1/4" SAE male)

Suitable for disposable cylinders only



Both AC2091M and AC2092 regulators reduce the Nitrogen or NitroTrace (N₂/H₂) cylinder pressure to an output of 10 bar or less. As the SAE Standard J2790 specifies the pressure required for proper leak testing to be less than 1.1MPa (160psig), these regulators are ideal for leak detection and system flushing in refrigerant systems. The BS341 fitting is good for the UK and is widely used in many other countries worldwide.

AC2093

High Pressure single stage regulator
for Nitrogen & NitroTrace

300 bar input x 60 bar output

BS341 male inlet x 1/4" SAE male outlet



This high pressure regulator converts up to 300 bar in Nitrogen/NitroTrace cylinders down to a maximum output of 60 bar. This model has the BS341 RH male thread, widely used internationally. Several other international fitting types are also available to order, including for France, Germany and Italy.

AC2092GB-KIT2

N₂ Leak test & flush set for Mobile A/C



This regulator set provides all you need for leak testing and flushing operations with standard Nitrogen and NitroTrace™ gas cylinders which have the British Standard female fitting.

The kit comprises: AC2092GB regulator, 2 metre hose, R134a & R1234yf service couplers, and the AC2094 N₂ Test gauge hose & valve unit.

Other International standard cylinder fittings are also available.

Adapters to convert
AC2091 regulators
for use with full sized
Nitrogen cylinders in
different countries:



AC2089GB
Adapter for British
Standard



AC2089FR
Adapter for French
Standard

AC2089DE
Adapter for
German Standard

AC2089IT
Adapter for Italian
Standard

AC2094B

N₂ Test unit with gauge & ball valve



For pressure flushing and leak testing. This tool allows for quick and reliable nitrogen (or NitroTrace™), pressure flushing and leakage tests on mobile and static AC&R systems.

Connects via 1/4" SAE male and female swivel fittings on the hose

AC2092GB-KIT1C

Nitro Leak test set for Mobile AC



The same as KIT2, but without the AC2094 N₂ test unit

AC2172

Spray Test micro leak locator

This non-flammable detector spray creates a bubbling effect where gas is leaking. It is a useful addition to the pressure testing process, adding confirmation to the pressure test, and will even enhance the ultrasonic sounds when using USX2 ultrasonic (see page 15).



Nitro Trace™ pressure leak testing system

The use of dry Oxygen Free Nitrogen (OFN) is a long established means of pressure testing air conditioning and refrigeration systems. A drop in pressure on a test gauge indicates that there is a leak. The point of leakage can then be found by using a leak spray, such as Spray Test (AC2172 page 10), or with an ultrasonic tester (page 15).

Primalec offers an added dimension with NitroTrace™ gas, with the addition of Hydrogen to OFN. Hydrogen has the smallest atom of all gases, and will leak through the tiniest of leak sources. As it can be detected using electronic hydrogen sensing technology, the leak location can be pinpointed with the Leaktronic™ 4 detector (AC2686). (see below and page 11). Leak spray such as SprayTest AC2172 may be also used for added assurance of the leak source.



NitroTrace™ gas cylinders

These non-refillable cylinders contain the NitroTrace blend of 95% Nitrogen/5% Hydrogen, in a choice of two compact portable sizes.

AC2098 1 litre NitroTrace™ Gas

AC2088 2 litres NitroTrace™ Gas

Regulators, hoses and adapters are also available separately (see page 10), or you can specify one of the complete kits below in our #4 carrying case.



AC2314B4

NitroTrace™ kit for mobile air conditioning R134a and R1234yf.

With its 10 bar regulator it is designed to meet the specifications of SAE standard J2790 for refrigerant leak testing in vehicle A/Cs.

This kit contains:

- Pressure Regulator - 300 Bar in, 10 Bar out - AC2091
- 2m Hose with 1/4" SAE female swivel fittings -
- N₂ Pressure testing gauge unit - AC2094B
- Leaktronic™ 4 NitroTrace™ detector AC2686
- Portable 1 litre NitroTrace™ cylinder - AC2098
- R134a low pressure coupler
- R1234yf low pressure coupler
- Primalec aluminium case 4



AC2312E

NitroTrace™ kit for high pressure HVACR systems

For applications where tests must be carried out at up to 60 bar. This includes many commercial AC&R and other pressure testing operations. Can be used with both disposable and refillable cylinders.

This kit contains:

- Pressure Regulator AC2093 - 300 bar in, 60 bar out
- Adapter to convert BS cylinder fitting to disposable cylinder thread
- Leaktronic-4 Hydrogen/NitroTrace™ detector AC2686
- 2m Hose with 1/4" SAE female swivel fittings
- N₂ Pressure testing gauge unit - AC2094B
- Portable 1 litre NitroTrace™ cylinder - AC2098
- Primalec aluminium case 4

AC2312

The same as AC2312E, but without the Leaktronic-4 detector:



AC2091KIT-2L

NitroTrace™ Leak test mobile set with 2x 2L cylinders

AC2091M regulator, 2 metre 1/4" hose with swivel fittings, coupler set for mobile A/C, & 2x 2 litre NitroTrace™ cylinders

Leaktronic™ 4 NitroTrace detector

See page 11 for the full specification.

USX-3 Superheterodyning technology

This essential addition to every engineer's diagnostic equipment allows you to hear inaudible ultrasonic frequencies and thus fix minor faults before they become problematic.



A necessity for preventative maintenance

Most mechanical faults and failures start out as very small defects or leaks. Such faults emit a high pitched noise as ultrasonic waves, which are beyond the range of the human ear. As the faults get more serious the noise gets more intense, the sound wavelength increases and enters the audible range. At that stage, the damage is already done. Instead, find the cause of the problem with the USX-3 before it's too late.

Primalec's USX-3 uses Superheterodyning technology to convert ultrasonic noises into the audible range which mimic the natural sounds made by the defect.

Since USX3 is tuned to listen to the ultrasonic range, it is also unaffected by everyday sounds such as wind, voices, and traffic which can further hinder the technician's ability to listen for a potential problem. This allows you to detect the faults and leaks in time for preventive maintenance by listening to the sound as well as using the LED display.

With its wide range of diagnostic uses USX-3 helps you to detect:

Mechanical Wear in:-

- Bearings, shafts, gears, cam and tappet assemblies

Leaks in pressurised systems

- Air conditioning & Refrigeration
- Compressed air
- Air Brakes & Tyres
- Vacuum leaks

Many other faults including

- Electrical discharge due to insulation breakdown
- Vehicle door and window seals
- Cracks and leaks in containers, bodywork, etc.
- Ultrasonic parking sensors
- Fuel system and refrigerant flows
- High pressure steam leakage

...and much more besides



USX3-K1

Receiver, transmitter, headphones, hollow probe, solid probe, 9V batteries, case



USX3-K2

Receiver, headphones, hollow probe, air probe, 9V batteries, case





AC2685 Leaktronic™ 5 Refrigerant leak detector

The new microprocessor controlled leak detector with advanced digital signal processing.

Highly sensitive to most commonly used refrigerants - HFCs, HFOs, HCFCs and Hydrocarbons - Leaktronic-5 will detect small leaks down to 3g per year. Its air suction system gives fast response and higher sensitivity. It can even detect hydrogen, but Leaktronic™ 4 is recommended for tracer gases because its sensor is specifically tuned to H₂.

See our CO₂ leak detector on page 35



AC2686 Leaktronic™ 4 NitroTrace leak detector

Leaktronic™ 4 is a microprocessor controlled leak detector with a Hydrogen specific sensor. NitroTrace leak detection gas, which is a blend of 95% nitrogen and 5% hydrogen. Hydrogen is used because it has the smallest molecule of all gasses and will find the smallest leak.

Nitrogen is 80% of ambient air, so it cannot be detected electronically hence the addition of detectable hydrogen.

Leaktronic™ 4 is essential when regularly leak testing with NitroTrace™ or other 95/5 forming gases

	AC2685 Leaktronic™ 5 Refrigerants HFC, HFO, HCFC, HC, and blends	AC2686 Leaktronic™ 4 Hydrogen and N ₂ H tracer gases, (NitroTrace™)
Sensor type	Heated semiconductor sensor with advanced digital signal processing	Heated semiconductor sensor with advanced digital signal processing
Sensitivity (on high setting)	3gm/yr	<5ppm; <2g/yr
Adjustable levels of sensitivity	3	3
Sensor life	> 1 year	> 1 year
Replacement sensor	AC2685-S	AC2686-S
Response time	Immediate	Immediate
Power supply	2 x C size Alkaline Batteries	2 x C size Alkaline Batteries
Battery life	Approx 16 hours normal use	Approx 12 hours normal use
Low battery indicators	Yes	Yes
Warm up time	45 seconds	45 seconds
Probe length	43cm (17")	43cm (17")
Auto power off	Yes - can be disabled	Yes - can be disabled
Automatic ambient reset	Yes	Yes
Audible leak alarm	Yes - Variable intensity audio	Yes - Variable intensity audio
Leak size indicator	Yes - tri-colour 7-LED bar indicator	Yes - tri-colour 7-LED bar indicator
Operating temperature range	0 to +40°C; <80% humidity	0 to +40°C; <80% humidity
Operating temperature range	-10 to +60°C; <80% humidity	-10 to +60°C; <80% humidity
Compliance according to	SAE J2791 & J2913; CE	EU Directive 2006/40; CE
Instrument housing	High impact ABS	High impact ABS
Carrying case	Yes - aluminium framed	Yes - aluminium framed
Weight without carrying case	450 gm (instrument only);	450 gm (instrument only);
Weight with carrying case	1,380 gm (with Primalec case 1)	1,380 gm (with Primalec case 1)
Warranty	1 year	1 year

Seal small leaks and prevent new ones

Primalec offers two types of chemical tool to help you with mobile air conditioning leaks.
Primalec is the only European manufacturing source of Type P leak sealants



Airco Seal Pro

The original automotive A/C leak sealer, now made in UK. It forms a permanent seal, repairing micro leaks in both metal and elastomeric components. Some rival sealants merely form a plug on the inside of the leak, which can fail under the vacuum cycle of a normal A/C service routine.

- Permanently stops micro leaks in both metal and elastomeric parts in automotive A/Cs
- Especially valuable with hard to find leaks and expensive to repair components
- Saves huge amounts of time and money in parts and labour
- Makes previously uneconomic repairs affordable
- Ideal low cost repair for out of warranty vehicles
- Contains no refrigerant, no propellant and no dyes or other additives in the vacuum can - just Airco Seal. Now in a choice of two sizes: Airco SealPro 1 for smaller cars. Airco SealPro 2 for larger cars



Vacuum filled cans for long shelf life

There are three main types of sealant chemistry on the market today

Type E - sealants restore flexible hoses and seals by mildly swelling the elastomers. They can stop leakage from those parts, but not metal components. Primalec's AC2222C Extra Cool, which replaces AC2138 Leak Stop 1, also contains the ICE32 system boosting additive and a dose of Glo-Leak UV.

Type P - Permanent polymeric sealants create a hard seal at the leak point, resistant to deep vacuum. Sealpro chemically reacts with the condensation which forms externally at the leak source as gas escapes under pressure. This forms a permanent seal on the micro leak. Primalec is the only European manufacturing source of Type P leak sealants. See how it works on page 13.

Type M - Macromolecular sealants work like car radiator sealants. They use large molecules which bunch up at the leak site, forming a bung to block the leak. Primalec does not currently offer a Type M sealant.

AC2133C

Airco Seal Pro 2

Type P micro leak sealant kit with R134a single use charge hose

Airco Seal Pro 2 is good for all Mobile A/Cs with an oil charge of up to 350ml.

AC2133CY

Airco Seal Pro 2

Type P micro leak sealant kit with R1234yf single use charge hose

AC2132C

Airco Seal Pro 1

Type P micro leak sealant kit with R134a single use charge hose

Good for up to 150ml oil charge



Note: Following feedback from customers, we have decided to remove the Tamper Guards from our Airco Seal Pro kits. If you still want to use Tamper Guards, you can find them on page 31

SealPro Advanced - the permanent micro leak sealant for static AC&R



SealPro Advanced for Refrigeration and Air Conditioning systems permanently and quickly seals refrigerant leaks up to 300 microns. It gives HVACR engineers a powerful chemical tool, especially when repairing older installations in which small persistent leaks cannot be identified.

HVACR SealPro

SealPro keeps systems running without micro leakage. The permanent seal will also prevent any new leaks as it remains active in the system. Sealpro contains no refrigerant and no propellant in its hermetic long life vacuum can. So it works with all common refrigerants HFCs, HCs, HFOs, and blends including R410a & R32.

Engineered to HVACR industry standards, SealProTM Advanced is easily installed into a fully-charged system, with NO pump down or recovery. Recommended for systems losing no more than 15% of the entire charge over a four-week period.

Now with ExtraDry to eliminate moisture, boost its Type P sealant performance and help prevent waxing and acid formation, SealPro is faster and more compressor-friendly than ever.

It is ideal for older systems, in which small persistent leaks cannot be identified, extending their lifetime.

So when you can find the leak, you can repair it conventionally, BUT...

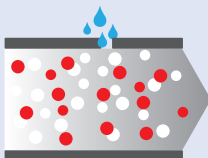
- when you can't find that micro leak and/or
- when the cost of replacement parts is uneconomical and/or
- when the parts are just not available when you need them

THEN – you should use SealPro

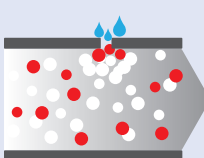


How it works

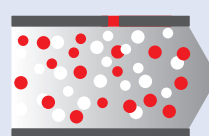
White represents refrigerant, red is **SealPro** and blue is condensation forming at the leak exit point externally.



SealPro finds the exit point and reacts with the condensation to start the repair.



Once the **SealPro** has fully formed the leakage stops and the seal is complete. It will resist even deep vacuum from inside.



There are three versions available according to the size of the system being treated.

SMALL systems 0.07 kW up to 5.2 kW

AC2947B

SealPro 1

AC2971B

Seal Pro 1 + Glo-Leak UV

MEDIUM systems 5 kW up to 18 kW

AC2944B

SealPro 2

AC2972B

Seal Pro 2 + Glo-Leak UV

LARGE systems over 18 kW

AC2948B

HVACR Seal Pro 3

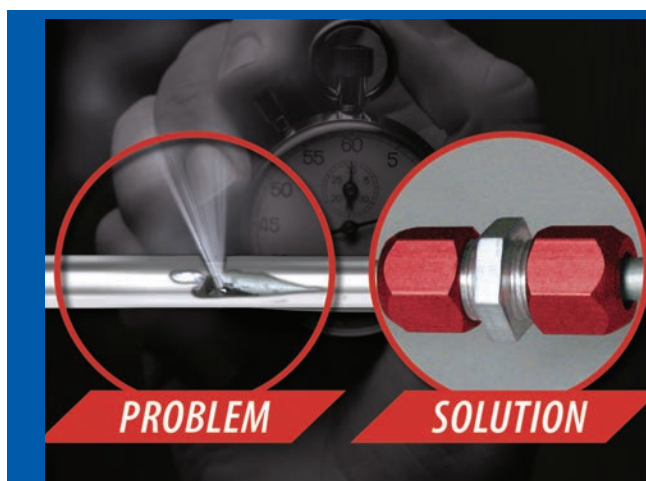


Smart Splice - Fast fix for broken pipes and hoses Install and modify pipe systems too



Smart Splice is the canny connector system that facilitates speedy repairs and modifications to pipes and hoses. You can repair leaks in vehicle Transmission, Power Steering, Coolant and Heater hoses and Air Conditioning pipes and hoses, as well as commercial and industrial A/C and refrigeration systems.

Typical repairs take just 5 minutes. Smart Splice parts include straight, 45° and 90° line fittings, as well as hose to pipe, hose to hose, and line block-off fittings. You can even use Smart Splice to add a service port connector to an A/C line. Line terminators can be used to block off rear evaporators, or to keep the open end of a new line free of grease and dirt during installation.

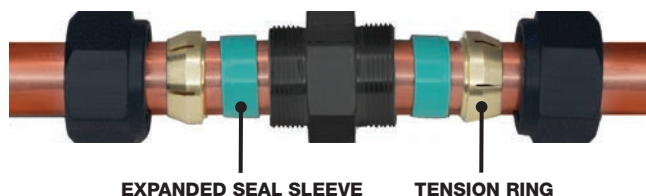


Really easy to use

To repair a leak in pipework, simply cut out the damaged part of the pipe and clean the ends. Lubricate the seal sleeve, then feed the nut, brass anti-vibration tension ring (AVTR) and seal onto the pipe. Push the body onto the pipe and push the seal into the body. Push the brass tension ring down, ensuring the pipe is correctly seated in the Smart Splice body. Hand tighten the nut and repeat on the other side. Use a spanner to tighten both sides and you're done.

- Repair leaking pipes and hoses in minutes
- Add a service port
- Block off a malfunctioning rear evaporator circuit
- Connect solid pipes to flexible hoses
- Burst tested to 2600psi or 179 bar
- Re-configure a system
- Make and install your own replacement hoses and pipes, even for large damaged segments
- Manufactured in the USA additives in the vacuum can - just Airco Seal. Now in a choice of two sizes:
Airco SealPro 1 for smaller cars.
Airco SealPro 2 for larger cars

10x more sealing power
PATENTED anti-vibration technology



EXPANDED SEAL SLEEVE

TENSION RING

Really easy to use

Smart Splice fittings are available in SAE sizes from 5/16" to 7/8" and metric sizes from 8mm to 16mm.



Straight



45°



90°



Inline service port

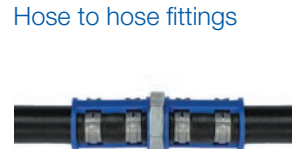


Line terminator

Line to hose fittings



Hose to hose fittings


Automotive
Splice video

Smart Splice HVACR – Fix, install, modify Speed up Mini-Split installations too



Smart Splice helps you get many new installations, such as mini-splits, done with minimal or even no brazing. Smart Splice also allows line modifications to a system and can easily repair pipe leaks. The only tool you need is a spanner to tighten the threads.



What Smart Splice does for you:

- Repairs leaking pipes in minutes
- Connects 2 lines – straight, 45°, 90°
- Connects lines to expanded tube/ King valves
- Fast installation of Mini-Splits
- Line terminations
- Add service port connectors
- Good for copper, aluminium, and steel lines

Why you need Smart Splice:

- Avoids brazing - no flame required
- Avoids flammability hazards
- Safer and faster - easy installation with just a spanner
- Eliminates flaring
- Works with flare to line connections
- Anti-corrosive
- Compensates for out-of-round pipes
- Certified leak-free
 - Burst-tested to 2600 psi, 179 bar
 - Vacuum tested to 340 microns, pull tested to 1500 Pounds / 680KG
 - 10x more sealing area with our expanded HNBR seal sleeve
 - High-tech anti-vibration ring prevents vibration leaks



See how it works
on a Mini Split



HVACR Splice
video

Leak repair and prevention tip

One of the most common points of leakage in mobile A/Cs is the service valve. It is important that both the valve core and the cap are in good leak free condition, but this is often overlooked. A very easy way to ensure leak tightness here is to replace the valve cores and caps at each A/C service. Find our solutions on page 33

The most popular Smart Splices: Automotive

AC76001	Smart Splice Straight Repair Kit - 1/2" OD Smart
AC76002	Smart Splice Straight Repair Kit - 3/8" OD Smart
AC76003	Smart Splice Straight Repair Kit - 1/4" OD Smart
AC76011	Smart Splice Straight Repair Kit - 3/8" OD Smart
AC76012	Smart Splice Straight Repair Kit - 1/2" OD Smart
AC77008	Smart Splice Straight Repair Kit - 8mm OD Smart
AC77010	Smart Splice Straight Repair Kit - 10mm OD Smart
AC77012	Smart Splice Straight Repair Kit - 12mm OD Smart
AC77015	Smart Splice Straight Repair Kit - 15mm OD Smart
AC77016	Smart Splice Straight Repair Kit - 16mm OD Smart
AC76801	Smart Splice A/C Splicer - # 6 Hose to # 6 Hose
AC76802	Smart Splice A/C Splicer - # 8 Hose to # 8 Hose
AC76803	Smart Splice A/C Splicer - # 10 Hose to # 10 Hose
AC76804	Smart Splice A/C Splicer - # 12 Hose to # 12 Hose

HVACR

AC86101	1/4" Flare to 1/4" OD Line Connector
AC86102	3/8" Flare to 3/8" OD Line Connector
AC86102	1/2" Flare to 1/2" OD Line
AC86104	5/8" Flare to 5/8" OD Line Connector
AC86014	Smart Splice 1/4" OD Straight line Repair Kit
AC86002	Smart Splice 3/8" OD Straight line Repair Kit
AC86001	Smart Splice 1/2" OD Straight line Repair Kit
AC86011	Smart Splice 5/8" OD Straight line Repair Kit
AC86012	Smart Splice 3/4" OD Straight line Repair Kit
AC86013	Smart Splice 1" OD Straight line Repair Kit

Snow Leopard Oils – your solution for today's refrigerants

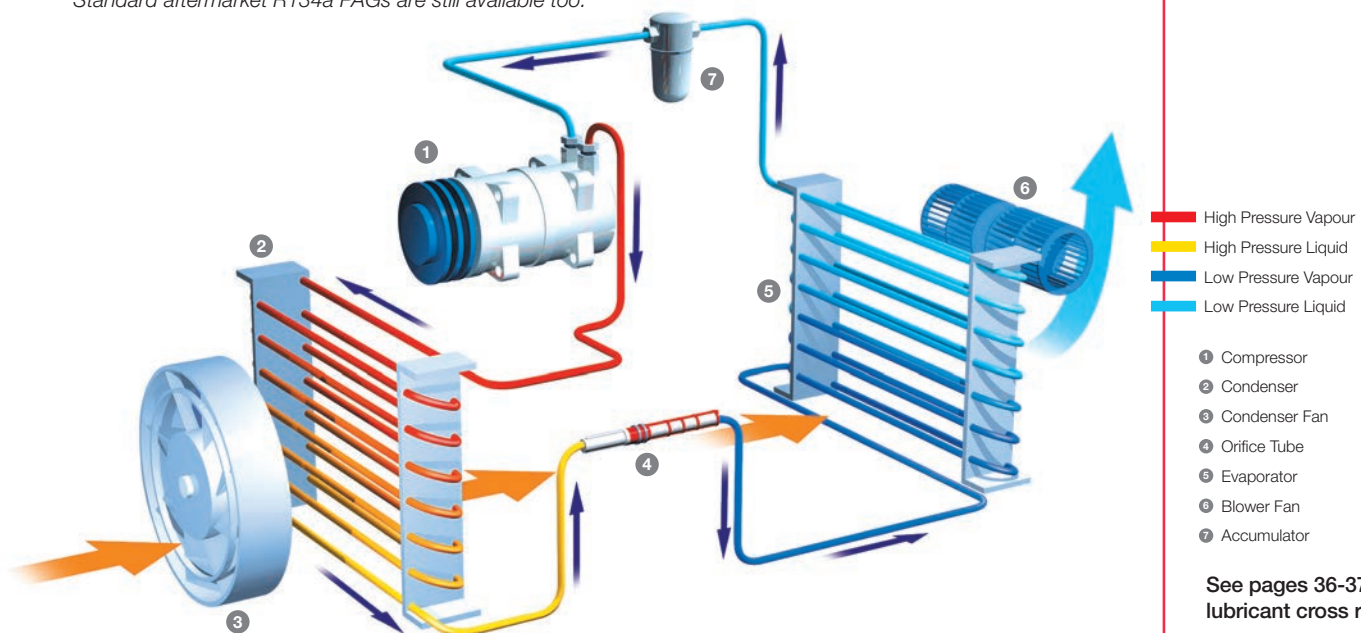
Inspired by that rare and beautiful feline that inhabits the high Himalayas, Snow Leopard Technical Lubricants are made for the alternating hot and cold environments of A/C and refrigeration systems.

Formulated from select synthesised oils, refined with special additives to meet and exceed the needs of your compressor, Snow Leopard oils have the power and performance to lubricate and protect your refrigerant system and to optimise its performance.

Primalec's premium synthetic lubricant range for A/C has three arms, described on the following pages:

- HFO PAG-HD for R1234yf and R134a systems;
- MRL85-POE for R1234yf and R134a systems;
- ExtraCool™ A/C high performance R134a Glo-PAGs with ICE32.
- EP PAGs for CO₂

Standard aftermarket R134a PAGs are still available too.



Climate Control

See pages 36-37 for lubricant cross references

What is the lubricant for?

Its main job is of course to lubricate the moving parts of the refrigerant compressor, dissipate heat, seal the compression chambers and valves and keep the seals and flexible pipes throughout the system in good condition, minimising leakage through elastomer degradation.

The oil shares its home with the refrigerant, so the two must be compatible and mix well together, and with all the different materials used in a mobile A/C system. Good miscibility lets the circulating refrigerant carry oil safely round the system to the o-rings, seals and flexible pipework and back to the compressor.

Electric compressors on most hybrid and full electric vehicles have a further need. The refrigerant and oil come into contact with live electrical parts, so they need a lubricant with the correct dielectric profile. Both HFO-PAG-HD and MRL-85 POE have dielectric properties to meet the needs of all Hybrids, PHEV and EVs

That is why it is important to use the right oil for the job. We recommend using the original fill oil type specified by the vehicle manufacturer.

Key points

- R134a is an HFC refrigerant with high Global Warming Potential
- R1234yf is an HFO refrigerant with Zero Global Warming Potential
- Normal Aftermarket R134a PAG oils do not mix with R1234yf
- R1234yf is relatively unstable and needs optimally additised double end-capped HFO-PAG oils, blended from select base oils
- One or two VMs specify an HFO compatible POE for electric YF compressors
- Electric compressors on MHEVs, PHEVs, and EVs must have the correct dielectric profile and compatibility with R1234yf (See page 19 for HFO-PAG-HD & and page 20 for MRL-85)
- R1234yf is mildly flammable
- A small number of high end vehicles and some refrigerated transport use CO₂ as a refrigerant.
- CO₂ runs at very high pressures and need Extreme Performance lubricant (See Page 20 for EP-PAGs)

Primalec collaborates only with the world's leading specialists in synthetic refrigerant lubricant chemistry to bring you a complete yet compact range of Mobile AC oils that you can trust.

Snow Leopard HFO-PAGs

Snow Leopard HFO-PAGs

HFO-PAG46-HD and HFO-PAG100-HD are the right oils to use in R1234yf systems when, as most VMs do, a double end-capped PAG based lubricant is specified.

These low moisture HFO-PAGs are now fully compatible with electric compressors found in Hybrids and plug-in EVs. They also give better lubricity and performance in all R134a systems than any ordinary R134a PAG oil. Their lower hygroscopicity and exceptional viscosity index enhances compressor life by ensuring efficient running even at high temperatures.

That means that Snow Leopard HFO-PAGs can be considered as a genuine 'one type fits all' solution. When you choose these top level lubricants, you escape the risk of using the wrong oil.



HFO PAG-HD benefits

- Optimum miscibility – R1234yf, R456A & R134a
- Low moisture, low hygroscopicity – good for electric & hybrid
- Double end-capped base oil, >90% capping efficiency
- Optimised additive technology <3% by weight for superior lubricity
- Backward compatible - works in PAG and POE technologies
- High viscosity index = high temperature stability
- Superior chemical stability
- Recommended for the R456A drop-in
- Glo-Leak UV aids leak detection (HFO Glo-PAGs)

Electrical characteristics:	Units	OEM Spec.	HFO-PAG46-HD
Dielectric Strength, ASTM D877	kV	35kV	38kV
Electrical resistivity (IEC247)	Ohm-cm	10 ⁹ Ohm-cm	10 ¹⁰ Ohm-cm

250ml MBTP bottle 1 Litre MBTP bottle 60ml Concertina 250ml Concertina (Y)

Snow Leopard HFO PAG46-HD

AC55046A	AC55046B	AC55046X	AC55046Y or W
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Snow Leopard HFO PAG100-HD

AC55100A	AC55100B	AC55100X	AC55100Y or W
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Snow Leopard HFO Glo-PAG46-HD

AC55046GA	AC55046GB	-	AC55046GY or W
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Snow Leopard HFO Glo-PAG100-HD

AC55100GA	AC55100GB	-	AC55100GY or W
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For R1234yf fittings and adapters
See page 31

Snow Leopard MRL-85



MRL85 is a polyolester (POE) based lubricant that has been chemically engineered with an optimised additive package for good miscibility with R1234yf.

Most VMs specify a POE oil for their R134a hybrid and electric vehicles, and one or two have done so for R1234yf vehicles.

Being compatible with R1234yf, R134a, and with electric compressors, MRL85 is your preferred choice for mobile AC compressors when the vehicle manufacturer has specified a POE.



MRL85 POE benefits

- Fully synthetic mobile A/C lubricant
- Good miscibility – R1234yf & R134a
- Low moisture (<50ppm) – good for electric & hybrid
- Polyol ester oil technology
- Backward compatible - works in PAG and POE technologies
- Good chemical stability
- Excellent lubricity
- Glo-Leak® UV aids leak detection (HFO Glo-PAG)

250ml MBTP bottle 1 Litre MBTP bottle 60ml Concertina 250ml Concertina (Y)

Snow Leopard MRL85

AC54085A	AC54085B	AC54085X	AC54085Y or W
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Snow Leopard MRL85 with Glo-Leak® UV

AC54085GA	AC54085GB	-	AC54085GY or W
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Snow Leopard EP PAG for Automotive CO₂

In a small number of high end cars and some refrigerated transport vehicles CO₂ is the refrigerant chosen by the VMs. CO₂ runs at very high pressures and need an Extreme Performance oil which is capable maintaining viscosity and lubrication at these pressures.

(See also page 22 for EP-PAGs in stationary refrigeration)

Primalec's 56000 series EP PAG 68 is the right oil for CO₂ in vehicles.

250ml MBTP bottle

Snow Leopard EP PAG 68 for vehicle CO₂ systems

AC56068A	Extreme pressure CO ₂ oil mechanical compressors
AC55068HV	Automotive CO ₂ oil EV & Mechanical

ExtraCool™ HP Glo-PAGs for R134a

All the cars on our roads with R134a A/C systems are now more than 5 years old. In cars of this age and older, air conditioner performance will inevitably have deteriorated. ExtraCool™ high performance PAG lubricants and additives can restore original cooling power to older vehicle A/Cs.

Benefits

- Restores cooling power to older ACs
- Cleans internal surfaces, prevents sludge
- Eliminates moisture
- Creates barrier layer to internal surfaces
- Stops and prevents hose and seal leaks
- Glo-Leak® UV aids leak detection
- Up to 15% faster cool down on hot days
- Up to 15% cooler vent temperatures while you drive
- Faster refrigerant flow, more efficient heat exchange
- Better lubricity, lower friction, less wear, longer compressor and system life.

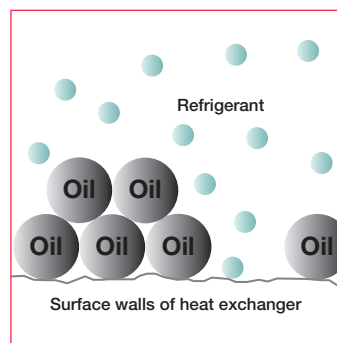


How does it do this?

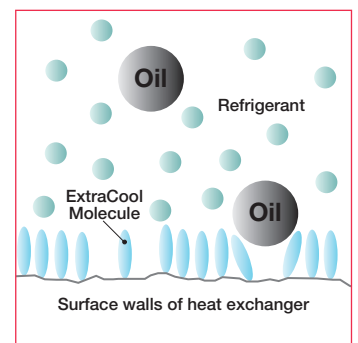
ExtraCool's ICE32 additive removes gummy deposits built up over years, and forms a slippery thin film boundary layer on metal surfaces. The resulting faster refrigerant flow, more efficient heat exchange and better oil return to the compressor, and its stop leak feature minimises refrigerant leakage through flexibly pipes, and elastomeric seals.

These ExtraCool™ R134a PAGs also contain Glo-Leak® UV for leak detection. They are great when topping up a system which has already been treated with Glo-Leak®, maintaining the oil's uv-fluorescence. When changing all oil after a system flush and/or a change of compressor, there is no need to add more UV dye to the ExtraCool™ Glo-PAG.

ExtraCool™ A/C with Glo-Leak® UV is also available as a concentrated in a choice of 3 packs, so that it can be easily added to an untreated system by injection or in our unique vacuum cans.



Oil layers attach to heat exchanger surface which impedes heat transfer



Activated polar ExtraCool™ molecules displace oil molecules, facilitating better heat transfer

250ml MBTP bottle 1 Litre MBTP bottle 60ml Concertina 250ml Concertina (Y)

Snow Leopard ExtraCool™ Glo-PAG 46 with ice32

AC53046A	AC53046B	-	AC53046Y
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Snow Leopard ExtraCool™ Glo-PAG 100 with ice32

AC53100A	AC53100B	-	AC53100Y
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Snow Leopard ExtraCool™ Glo-PAG 150 with ice32

AC53150A	AC53150B	-	AC53150Y
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Extra Cool A/C has now replaced Airco Leak Stop 1 elastomer hose and o-ring leak sealer, with all the added benefits of Extra Cool's properties.

250ml MBTP dispenser 30ml Concertina 30ml Vacuum Can 6x30ml Vacuum Can + App Hose

ExtraCool™ A/C Additive (with Glo-Leak®)

AC2222A	AC2222V	AC2222C	AC2222E
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The ExtraCool™ A/C additive is also available as a concentrate in our patented Concertina injector cartridges, our unique vacuum can and our 250ml dispenser bottle.



High Performance lubricants for commercial refrigeration and heat pumps



Snow Leopard Extreme Performance (EP) PAGs for CO₂

CO₂ (R744) is one of the leading natural refrigerants being used in zero carbon refrigerant technology, especially in commercial refrigeration and heat pumps.

Snow Leopard EP PAGs are Extreme Performance double end-capped lubricants. They have been developed to retain their superior lubricity at the very high pressures and temperatures found in CO₂ systems. EP PAGs are used in commercial refrigeration CO₂ systems, as well as some vehicle air conditioners.

EP CO₂ PAGs do not suffer the decrease in viscosity that POEs experience under dilution, and so maintain excellent wear properties. These OEM approved EP PAGs are significantly less hygroscopic than uncapped PAGs, having high chemical, thermal and hydrolytic stability with excellent lubricity. Currently available in ISO viscosity grades 46, 68 and 100, with EP PAG68 being the most widely used.

Pack sizes 1L, 5L, 25L and 200L drums.

See page 20 for Automotive



Airco Lube Vacuum Pump Oils

Designed to lubricate and protect all types of Vacuum pump, ensuring long and trouble free service. Vacuum Pump Oil offers anti-wear properties, oxidation resistance, rust protection combined with low foam tendencies. Available in ISO grades 46, 68 & 100 and suitable for all types of reciprocating and rotary vacuum pumps that require these specifications.



250ml	1 Litre	5 Litre
Airco Lube VPO 46		
AC2180A	AC2180B	AC2180C
Airco Lube VPO 68		
AC2178H	AC2178B	AC2178C
Airco Lube VPO 100		
-	AC2179B	AC2179C

Airco Lube every day R134a PAGs

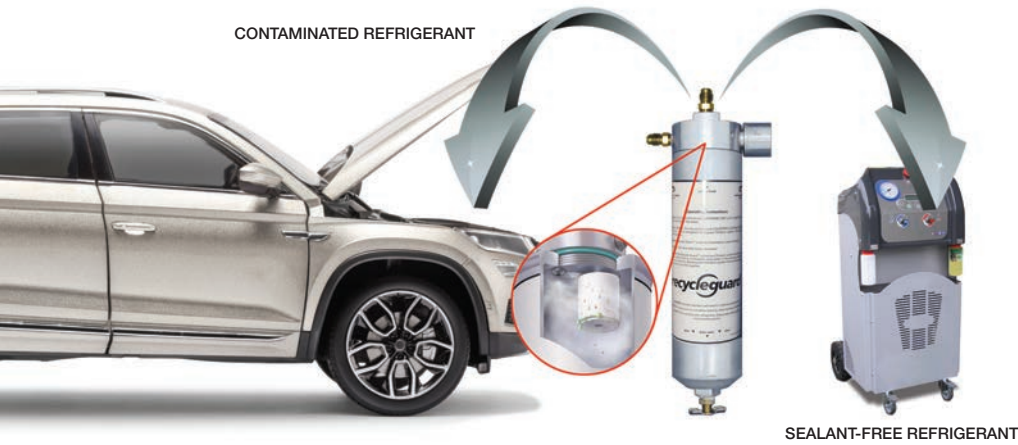
Airco Lube PAGs are standard mono end capped oils. They are fully synthetic polyalkylene glycols that are well suited to automotive aftermarket use in most temperate climatic and environmental conditions. Available in ISO grades 46, 100 and 150. Packaged in Primalec's unique moisture barrier treated polymer bottle under a nitrogen blanket and heat-sealed lid.

250ml	1 Litre
Airco Lube PAG46	
AC2173A	AC2173B
Airco Lube PAG100	
AC2174A	AC2174B
Airco Lube PAG150	
AC2175A	AC2175B



Recycle Guard

Protects your valuable A/C service equipment from debris, moisture, and other contaminants. Prevents downtime and damage



AC2147A

Recycle guard A/C service equipment filters - captures contaminants, protects recycling equipment

A/C Recycle Guard 1/4" SAE
- with 90cm service hose

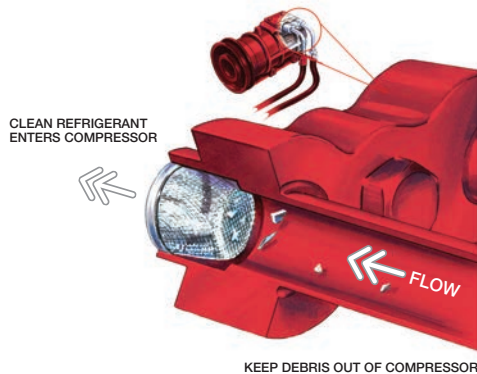


AC2148

Replacement filter pack, singles

Compressor Guard

Compressor Guard suction filter screens. OE-approved protection for newly installed or repaired compressors. Prevents damage and warranty claims caused by debris and contaminants left behind by the failed compressor.



Compressor guard A/C filter screens
- Protect compressors from particle debris in the system

- AC2191 0.471" (11.96 mm) Filter Screen - Five Pack AC67502
- AC2199 0.500" (12.70 mm) Filter Screen - Five Pack AC67528
- AC2192 0.510" (12.95 mm) Filter Screen - Five Pack AC67504
- AC2193 0.521" (13.23 mm) Filter Screen - Five Pack AC67506
- AC2194 0.531" (13.49 mm) Filter Screen - Five Pack AC67508
- AC2195 0.538" (13.67 mm) Filter Screen - Five Pack AC67510
- AC2196 0.552" (14.02 mm) Filter Screen - Five Pack AC67512
- AC2197 0.595" (15.11 mm) Filter Screen - Five Pack AC67514
- AC2198 0.618" (15.70 mm) Filter Screen - Five Pack AC67516



AC25653

Legend R1234yf/R134a Refrigerant Analyser (with printer and Bluetooth)

This model measures R1234yf, R134a and R12, as well as contaminants R22, Hydrocarbons, and 'unknown'. It also displays percentages of R-1234yf, R-134a, R-22, R-12, HC, Unknown and Air.



AC25220

Legend HFC Multi-Refrigerant Analyser (with printer and Bluetooth)

This model analyses R22, R32, R134a, R404A, R407C, R410a, HCs and Air. It also identifies the presence of R12, R1234yf, R408A, R409A, R417A, R421A, R421B, R422A, R422B, R422C, R427A, and HCs.



AC25100

Automotive Refrigerant Analyser with printer

This model identifies and analyses R134a & R1234yf



Eye-See

See what's going on inside the AC&R system

This sight glass connects to the ACR system's low and high pressure service ports to become part of the circuit.

This allows you to assess visually the condition of the refrigerant and lubricant while the system is running.

A choice of 2 kits, complete with 2 hoses, high & low service couplers

AC2050KIT1

Sightglass A/C diagnostic set R1234yf

AC2050KIT2

Sightglass A/C diagnostic set R134a

Both with high and low service couplers and 2 hoses

AC2050

Sightglass A/C diagnostic tool only

1/4" SAE male fittings



Airco Flush cleans A/C systems internally

Flushing internal pipework and heat exchangers of AC&R systems removes any moisture, excess oil, gummy deposits and small metallic or carbon debris. It is important for three reasons:

1. Optimum A/C performance requires the correct amounts and proportions of both refrigerant and oil: flushing lets you start the recharge with an empty system.
2. Whenever the system is opened to replace a part, moisture and other impurities can enter. Flushing eliminates these contaminants.
3. When replacing a failed compressor, any remaining metal and carbon debris can result in the expensive new component also failing. Your component supplier may not honour the warranty if there is no evidence that a proper flushing has been carried out.

Whenever an AC&R system is opened for repair, we recommend internal flushing to optimise performance and prevent damage.

AC2141B

Airco Bio Flush

1 litre

AC2141C

Airco Bio Flush

5 litres



A single treatment internal coil cleaner and flush with the advantageous characteristics:

- Low odour, non-hazardous, non-toxic
- Non-flammable - flash point 70°C
- Bio-degradable, non-polluting
- Compatible with all refrigerants, refrigerant oils
- Oil soluble surfactants clean all internal surfaces
- Neutralises and removes organic and mineral solvents

AC2320

Airco Flush cylinder kit



This kit enables individual components, hoses and pipelines to be cleansed with ease. Designed to work with Airco Bio Flush or any light flushing agent with pressurised oxygen free nitrogen (OFN) or very dry compressed air to chase it round the system. This kit includes:

- 1 litre flushing cylinder
- Flexible hose with Teflon washers
- Pistol operated flush gun

AC2171D

Universal flush clamp



AC2135

Flush clamps boxed

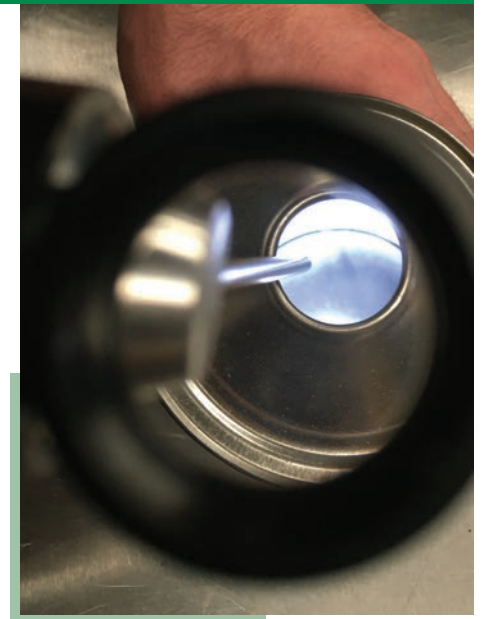
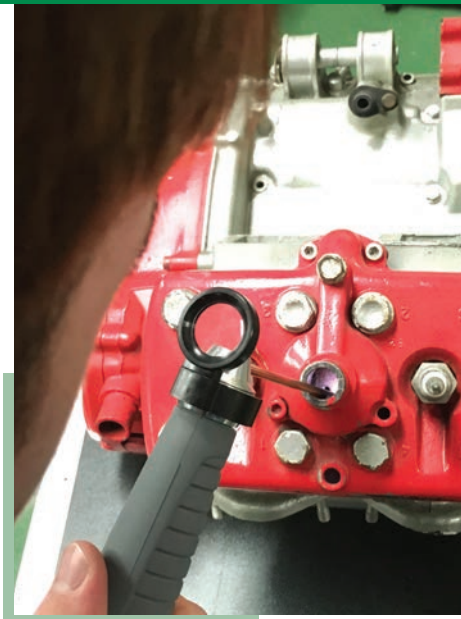


The Invictalux bore and cavity inspector

Invictalux is a modular, multi-use inspection system comprising a hand unit and a series of interchangeable light heads and bore viewers. Invictalux is offered as individual products, or in complete sets.

2018 upgrades offer an improved switch, new solid contacts on the light heads, and the latest single chip LED technology with optical reflectors.

- The Bore Viewer magnifies and illuminates inside dark bores & cavities
 - Mouldings, small components
 - Pistons, pipes hoses, small fittings
 - Cylinders
- Light heads in white light and UV options
- Quality control, leak and flaw detection, forensic and general inspection



INV-211B



Mark III Hand Unit

INV2030BV



Bore inspector 100 module
- white

INV2021V



3W UV400 light head

INV2020D



Swan neck extender

INV2021UV4



3W UV-400 inspection torch

INV2030K1



Bore Viewer starter set

INV2021A



Invictalux inspection set

INV2021ABV



Complete Invictalux & BV set

INV2030K2

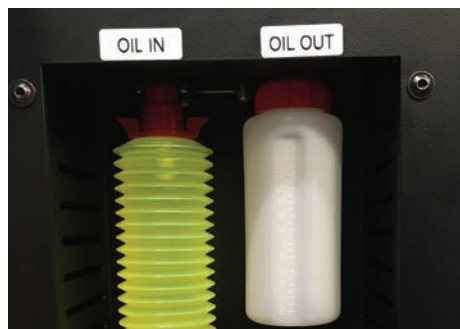


Bore Viewer advanced set

Concertina hermetic injection system for oils and additives

Concertina bellows style cartridges are factory pre-filled with Snow Leopard lubricants, Glo-Leak® UV or Extra Cool™ A/C for injection into pressurised systems, such as air conditioners. An integral 1-way valve in the cartridge neck keeps it collapsed after the liquid has been forced out by back pressure or drawn by vacuum.

Thanks to their hermetic nature, you can disconnect partly used Concertinas with no fear of moist air entering, making it easy to use a HFO-PAG46 for a newer R1234yf vehicle and then ExtraCool™ R134a PAG100 oil on the next.



There are two types of Concertina:

1 The soft skin vacuum activated Concertinas are typically fitted to air conditioning service machines in place of standard bottles via either a female coupling unique to equipment manufacturers, or an industry standard fitting. See photo above. By simply fitting a conversion coupling to your machine, you can now upgrade to the Concertina system.

See also pages 4, 5, 19 & 20 for details of the oil and dye cartridges



2 The injectable hard skin cartridges are for direct injection to the pressurised system. Place the cartridge inside a Concertina tool, connect its hose to the system's low pressure service port, and a measured amount of liquid is forced in by the turn of your hand without de-gassing or adding refrigerant. See photo above. Concertina cartridges can found in the relevant sections of the catalogue - Glo-Leak® UV, Snow Leopard HFO and ExtraCool™ PAGs, MRL85 lubricants, and ExtraCool™ A/C.

Benefits

- Pre-filled with the best lubricants
- Easy to switch from one oil type to another
- Integral valve stops air ingress
- Easier disposal, less waste than standard bottles
- Cleaner, easier to use

You may be able to convert an existing AC service machine to the Concertina Hermetic bottles using these adapters:



CON-023 (blue for oil) or
CON-023Y (yellow for Glo-Leak®)

AC2230D

Concertina 1 injector



Our entry level injector for prefilled Glo-Leak®, lubricant and other additives. Accepts the 30/60ml factory pre-filled Concertina cartridges, and its clear graduated scale allows for accurate dosing. Included are the 3-part injector tool, a charge hose and an R134a coupler. R1234yf coupler available separately.

AC2231

Replacement concertina 1 injector tool
(no hose or quick connector)

AC2162

50ml FlowJect inline injector



Fill the chamber from a bottle or can, connect to your charge hose and to the low (suction) side of the system, and up to 60ml of oil, dye or other additives will flow in with the refrigerant.

AC2267

RotaJect 20ml Oil & dye injector tool AC&R ¼"



This robust and durable new metal injector tool is designed for frequent daily use. Its 20ml chamber makes it ideal for injecting Glo-Leak® UV test fluids or small amounts of other additives from 2.5ml to 20ml.

Vac-U-Can additive

Vac-U-Can contains only the additive* held in vacuum – no gases, no propellants.



Vacuum in can, system off but pressurised. Refrigerant flows from ACR system to can, mixes with additive.

Vac-U-Can has 4 key advantages:

- Active ingredients are pre-mixed with the system's own refrigerant before injection.
- Active ingredients circulate quicker and get to work faster
- Concentrated product means minimal volume is added
- No clogging of compressors

Other advantages

- Long shelf life
- Non-hazardous for transport*
- All metal can, no plastic

*except for SealPro

Vac-U-Can is available for use in Automotive air conditioners and stationary HVACR systems for the following additives*:

Airco Seal Pro	micro leak repair for automotive A/C
HVACR Seal Pro	micro leak repair for stationary refrigeration and air conditioning
Glo-Leak UV	Fluorescent leak tracer
ExtraCool A/C	R134a system restorer
ExtraDry ACR	Moisture scavenger

This smart injection process uses pressure differentials between the can and the pressurised system.

The hermetically sealed Vac-U-Can holds a small dose of concentrated additive in a moisture-free vacuum (HVACR Seal Pro 1 in this example).

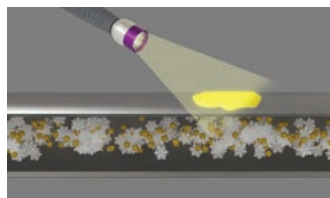
The can is connected via the supplied tapping hose to the ACR system's low side port with the system off and the low and high pressures equalised.

The needle valved tap pierces the can, the higher pressure of the system's low (suction) side forces system refrigerant into the can where it mixes with the additive. The pressure in the can is now the same as the system pressure.

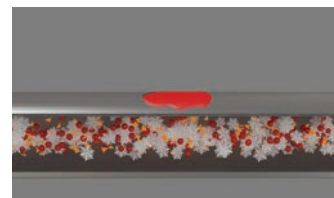
When the ACR system is switched on, the low side pressure gradually reduces, sucking in the refrigerant-additive mixture from the can. The additive is immediately carried through the system to do its job of finding a leak, or sealing a micro leak, or scavenging moisture, or neutralising acidity.



Can is now pressurised, system switched on. As low side pressure reduces, the refrigerant/additive mix flows from the can to the A/C, circulates immediately.



Glo-Leak UV finds the leak fast



Seal Pro seals the leak fast



View our videos



SPKIT01

Safety glove and goggle set 1



SPKIT01 Safety glove and goggle set 1 conforms to EN166, EN374 and EN388. The kit includes the SP2025G Anti-Mist Goggle Polycarbonate Liquid/Dust/Molten Metal, together with the robust SP37675 chemical safe flock lined nitrile gloves.

SP301UV

Extra-Glo UV/impact protective safety glasses, EN166/170



Protects your eyes and enhances fluorescence. Extra-Glo Safety eyewear is DIN certified and conforms to EN166:2001 and EN170 (UV protection). Lens mark: 2-1.2 PRIM 2 S CE. The amber lens gives greater comfort when working with UV light sources, and enhances the fluorescent contrast in leak detection.

AC2241

Digi-Thermo digital thermometer



Also good for measuring vent temperature, with a 90cm (3ft) flexible lead allows readings to be taken from outside the vehicle. Min/Max and alarm functions.

- Temperature: -50°C +300°C
- Resolution: 0.1°C
- Accuracy: ±1°C
- Power: DC1.5V AAA alkaline battery
- Probe length: 100mm (+ handle)
- Screen size: 32mm x 14mm



Airco Breeze Multi

AC2139B

Pack of 3 cans with 1 pipe supplied in cases of 4 x 3

AC2139A

Singles with pipe supplied in cases of 12

- Non-tacky, non-foaming
- Quick and easy to use
- Economical - concentrated product treats up to three vehicles per can
- Also good for domestic and commercial evaporators

A multi-treatment spray in a Sea Breeze fragrance supplied with a long pipe to penetrate deep into the evaporator chamber to deodorise and sanitise the whole vehicle interior.

It removes harmful bacteria and bad smells from vehicle A/Cs and cabins, leaving a pleasant long lasting 'Sea Breeze' aroma. Economical and easy to apply Airco Breeze Multi is the simple way to rid your customers' air conditioned cars of 'old socks' or 'dead mouse' odour. Treats up to three cars. Airco Breeze Multi, when applied professionally, cleans and disinfects the evaporator chamber and air channels, including evaporator surfaces, killing bacteria and mould in the process. It takes only minutes to perform a lasting cleansing.

Airco Refresh Total

A single treatment total release aerosol canister in a choice of three fragrances. Airco Refresh eliminates odours and sanitises the whole vehicle interior, including the hidden evaporator chamber and air channels. Just place the can in the passenger foot well, switch the fan to half speed, press the button and exit the vehicle with all doors and windows closed.



AC2239V

Vanilla

AC2239M

Spearmint

AC2239F

Fresh Water

Airco Shield sanitiser spray

This hard surface sanitiser spray is made for you with 65% ethyl alcohol and purified water. Other ingredients reduce the evaporation rate to ensure effective disinfection.

Made and Certified in the UK with 99.999% kill rate

to BS EN1276 (bacteria), BS EN14476 (virus), & BS EN1650 (moulds).

SP012-6

Hard Surface Sanitiser spray 65% alcohol, 250ml x6

SP014

Hard Surface Sanitiser spray 65% alcohol, 1000ml

SP015

Hard Surface Sanitiser spray 65% alcohol, 1000ml refill



Airco Shield Hand sanitiser gel

Our kind-to-hands Sanitiser gel is made with 70% cosmetic grade ethanol, purified water and skin conditioner. A thickening agent slows down the rate of evaporation, ensuring that the active ingredients have enough time to work on hands.

Made and Certified in the UK with 99.999% kill rate

to BS EN1276 (bacteria), BS EN14476 (virus), BS EN1650 (moulds), BS EN13624 (yeasts - medical) & BS EN13277 (bacteria, medical).

SP004

Airco Shield Hand Sanitiser gel 70% alcohol, 500ml pump

SP002

Airco Shield Hand Sanitiser gel 70% alcohol, 100ml with flip top





Enjoy the comfort and safety of Purified air, winter and summer

The Airco Shield Purifier is an ozone generator with the power to destroy bacteria, viruses, fungi, protozoa as well as all the unpleasant odours that accumulate in confined spaces, including the chamber behind the dashboard where the A/C chills the air.

Ozone gas (O_3) is the second most powerful steriliser in the world. It is very efficient in eliminating bad odours, and has long been known for its anti-pathogenic effects.

Ozone's killing action upon bacteria, viruses, fungi, and protozoa has been documented in numerous scientific studies over several decades.

Although very powerful, ozone is unstable and has a short life-cycle. The targeted contaminants are destroyed completely by oxidation, using up ozone's extra atom and the ozone reverts safely back to oxygen (O_2) - no odour, no germs.

The result: cleaner, fresher air inside the vehicle, improved concentration, comfort and safety.

How the Purifier works

Airco Shield Purifier creates ozone using short wave ultra violet inside a chamber within the machine. The natural power of ozone eliminates bad smells, smoke, mildew, bacteria, protozoa and allergens. Ozone is one of the most powerful and effective eliminators of tobacco smoke and many other contaminants, including odours from pets, rodents, mould, mildew, fast food, cooking and other sources. As a gas, ozone has a penetrating capacity that liquids do not possess.

- Leaves a medically safer in-vehicle environment
- Destroys germs - bacteria, viruses, mould spores, and protozoa
- Leaves a freshened clean air interior
- Eliminates nasty odours at source without masking them
 - Bad smells from the A/C system
 - Smoke, take-away food and drink residues
 - Pet odours, body odour, vomit
- No consumables, no chemicals or REACH compliance worries, and more profit on each job

Eliminate these hazards with Purifier for a healthier, more comfortable living environment in the car, van, truck, tractor, caravan, boat and other small rooms and spaces.



Tough on odours, tough on the causes of odours

Two models are available each having a variable electronic timer control with LCD and auto shut off means that the machine does the work for you, while you do other jobs, and is off when you re-enter the treatment area or vehicle.

For a modest investment and no consumable costs, you get a valuable new customer service proposition, with consumer flyers and mirror hangers to help you sell the service.

FOR PROFESSIONAL USE ONLY



AC29175

Airco Shield Purifier-2

Our latest model, easier to carry, updated electronics and with twice the ozone output of Purifier. Purifier-2 reaches the germ and odour killing zone within minutes, treating an average car in as little as 15 minutes



AC29170

Airco Shield Purifier-1

The original Purifier, successfully sanitising vehicles for 10 years

R134a specific fittings

AC2026H



R134a HP valved service coupler M14 & 1/4" SAE-M
Connects/disconnects only when valve is closed

AC2026L



R134a LP valved service coupler M14 & 1/4" SAE-M
Connects/disconnects only when valve is closed

AC2164H



R134a quick coupler 90° HP
1/4" SAE-M

AC2026L



R134a quick coupler 90° LP
1/4" SAE-M

AC2017HA



R134a extra long valved service coupler
Connects /disconnects only when valve is closed.
Made in USA

AC2017LA



R134a extras long valved service coupler
Connects /disconnects only when valve is closed.
Made in USA

AC2165H



R134a HP straight quick coupler
1/4" SAE M

AC2165L



R134a LP straight quick coupler
1/4" SAE M

AC2036



Cylinder adapter 21.8-14 F
DIN x 1/4" SAE-M

AC2037



Cylinder adapter 21.8-14 F
DIN x R134a M HP

AC2165HH



R134a HP F to HP M straight quick coupler - for models with no low side port

AC2165LL



R134a LP F to LP M straight quick coupler extension

AC2041



1/2" ACME RH Male x 1/4" SAE-F adapter

AC2042



1/2" ACME RH Fem x 1/4" SAE-M adapter

AC2165HB



R134a HP F to LP M straight quick coupler for models with no low side port

AC2028



M14 Male x 1/4" SAE-M adapter to convert M14 R134a couplers to use with 1/4" SAE hoses

R134a primary ports

AC2276



M10x1.25

AC2277



M12x1.5

AC2135L



1/2" ACME RH Male x 1/4" SAE-F adapter

AC2135J



Port converter 1/4" SAE to R134a high side with cap

AC2135H



Port converter 3/16" SAE to R134a high side with cap.
For some Japanese models

AC2278



M13X1.0

AC2279



M15X1.0

AC2135LR



90° Port converter 1/4" to R134a low side with cap

AC2135JR



90° Port converter 1/4" to R134a high side with cap

AC2135HR



90° Port converter 3/16" to R134a high side with cap.
For some Japanese models

AC2280



M13X1.0

AC2281



M15X1.0

R1234yf specific fittings

AC2023H



R1234yf HP Quick Coupler
90° deg

AC2023L



R1234yf LP Quick Coupler
90° deg

AC2022H



R1234yf valved HP service
coupler. Valve must be closed
to connect/disconnect

AC2022L



R1234yf extra long valved LP
service coupler. Valve must be
closed to connect/disconnect

AC2024H



R1234yf HP Quick Coupler
straight

AC2024L



R1234yf LP Quick Coupler
straight

AC2021HA



R1234yf extra long valved HP
service coupler. Valve must be
closed to connect/disconnect.
Made in USA

AC2021LA



R1234yf extra long valved LP
service coupler. Valve must be
closed to connect/disconnect.
Made in USA

AC2024HL



R1234yf Quick Coupler
straight HP to LP

AC2024LL



R1234yf Quick Coupler
straight Low-Low extender

AC2024HH



R1234yf Quick Coupler
straight High-High extender

AC2052



M12-1.5 LH male x 1/4" SAE
Converts M12 female YF service
coupler to 1/4" SAE-M

AC2053



F cylinder adapter 1/2" ACME
LH Fem x R1234yf HP Male
port. Converts Honeywell US
CGA166 LH to YF HP Male

AC2054



R1234yf HP male x 1/4" SAE fem,
Mates with AC2057 to make the
same adapter as AC2058

AC2055



R1234yf LP male 1/4" SAE-F
Mates with AC2057 to make
the same adapter as AC2059

AC2056



YF cylinder adapter 1/2" ACME
LH Fem x R1234yf LP Male
port. Converts Honeywell
CGA166 LH to YF LP Male

AC2040



YF cylinder adapter 1/2" ACME
LH Fem x R1234yf LP Male
port. Converts Honeywell
CGA166 LH thread to 1/4"
SAE-M RH

AC2057



YF cylinder adapter
DIN 477 21.8-14 LH Fem x 1/4"
SAE-M RH. Converts Honeywell
CGA166 LH thread to 1/4"
SAE-M RH

AC2058



YF cylinder adapter
DIN 477 21.8-14 LH Fem x
R1234yf HP male x adapter.
Converts DIN cylinder thread
to YF Male HP

AC2059



YF cylinder adapter
DIN 477 21.8-14 LH Fem x
R1234yf HP male x adapter.
Converts DIN cylinder thread
to YF Male LP

The SAE standard J2888 for R1234yf cylinder fittings specifies the thread types for the YF gas cylinders, service hoses connections and service couplers. Because HFO-R1234yf is classed as a mildly flammable (A2L) refrigerant left hand threads were specified. Two cylinder connections are commonly used in the market. The US CGA 166 1/2" ACME Left Hand (LH) thread and the DIN 4777 21.8-14 LH thread.

Service couplers typically have a M12x1.56G female thread, but 1/4" SAE male thread are also common. Both are widely used, so Primatec's AC2022 valved couplers feature the integral M12 female fitting and the AC2052 M12 x 1/4" M-M adapter. Above there is a full range of adapters to cover all your R1234yf needs, and on the previous page for R134a.

Valves, valve cores and caps

AC3268-20



Valve core high flow M8
Peugot/Volvo

AC3269-20



Valve core JRA high flow

AC3270-30



Valve core standard

AC3271-20



Valve core GM high flow M8

AC3272-20



Valve core R134a high flow M8

AC3273-20



Valve core R134a high flow M10

AC3274-20



Valve core Renault M5

AC3275-20



Valve core Audi

AC3296-20



R1234yf flow valve core
Pack of 20

AC2250



Valve core tool standard & large
- brass and steel

AC2251



Valve core tool standard & large
- steel, plastic handle

AC2134L



Valve cap R134a low blue

AC2134H



Valve cap R134a high red

AC2282



Valve cap low M9x1 blue

AC2283



Valve cap high M10 red

AC2284



Valve cap 1/4" black

AC2285



Valve cap 3/16" black

AC2286



Valve cap high 16mm red

AC2287



Valve cap 13mm blue

AC2288



Valve cap low M9x1.0 blue

AC2289



Valve cap M10x1.25 blue

Spring-lock tools, primary ports R134a, and miscellaneous

AC2246



Ford springlock tools,
set of 4

AC2247



Opel-Vauxhall springlock tools
set of 2

AC2248



VW-Audi springlock tools,
set of 2

AC2249



Two prong springlock tool,
Toyota

AC Service kits - Handy sets of essential small parts in compartment boxes



AC2154F

Valve core and cap service kit

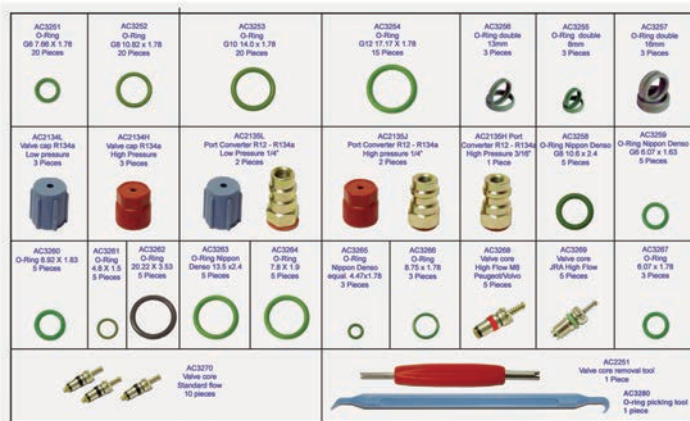
x5	AC3268	Valve core	x5	AC2134L	Valve cap
x5	AC3269	Valve core	x5	AC2134H	Valve cap
x5	AC3271	Valve core	x5	AC2282	Valve cap
x5	AC3272	Valve core	x5	AC2283	Valve cap
x5	AC3273	Valve core	x5	AC2284	Valve cap
x5	AC3274	Valve core	x5	AC2285	Valve cap
x5	AC3275	Valve core	x5	AC2286	Valve cap
x5	AC3296	Valve core	x5	AC2287	Valve cap
x30	AC3270	Valve core	x5	AC2288	Valve cap
x1	AC2251	Valve tool	x5	AC2289	Valve cap



AC3233

O-ring kit

x10	AC3238	6.8 x 1.78	x10	AC3254	17.17 x 1.78
x10	AC3241	10.6 x 2.85	x10	AC3258	10 x 2.4
x10	AC3242	13.8 x 2.4	x10	AC3260	9.2 x 1.8
x10	AC3247	23.5 x 2.5	x10	AC3261	4.5 x 1.5
x10	AC3249	17.12 x 2.6	x10	AC3262	20.22 x 3.53
x10	AC3250	8 x 2	x10	AC3263	13.4 x 2.4
x10	AC3251	7.66 x 1.78	x10	AC3264	7.8 x 1.9
x10	AC3252	10.82 x 1.78	x10	AC3265	4.47 x 1.78
x10	AC3253	14 x 1.78	x10	AC3267	6.07 x 1.78



AC2154A

Service kit A

x20	AC3251	O-ring	x3	AC3265	O-ring
x20	AC3252	O-ring	x3	AC3266	O-ring
x20	AC3253	O-ring	x3	AC3267	O-ring
x15	AC3254	O-ring	x5	AC3268	Valve core
x3	AC3255	O-ring	x5	AC3269	Valve core
x3	AC3256	O-ring	x10	AC3270	Valve core
x3	AC3257	O-ring	x3	AC2134H	Valve cap
x5	AC3258	O-ring	x3	AC2134L	Valve cap
x5	AC3259	O-ring	x2	AC2135L	Retro port
x5	AC3260	O-ring	x2	AC2135J	Retro port
x5	AC3261	O-ring	x1	AC2135H	Retro port
x5	AC3262	O-ring	x1	AC2251	Valve tool
x5	AC3263	O-ring	x1	AC3280	O-ring picker
x5	AC3264	O-ring			



AC3231

Orifice tube service kit G1 without extractor tool

AC3232

Orifice tube service kit G2 with extractor tool as illustrated

AC3201	White 0.072
AC3205	Yellow 0.062
AC3210	Black T-top 0.072
AC3213	Orange 0.057
AC3214	Blue 0.067
AC3215	Orange T-top 0.057
AC3216	Red 0.062
AC3217	Green 0.052
AC3219	Purple T-top 0.062
AC3221	Brown 0.062

The importance of testing your refrigerants

Accurate identification and analysis of the refrigerant each time you service a system helps you to diagnose and correct poor cooling performance, enhancing the quality of your work. You will also prevent cross contamination in your cylinders and in customers' AC&R systems

Technical standards for mobile A/C service now include a requirement to verify the purity of the HFO-1234 refrigerant in the system prior to recovery. These analysis instruments allow you to conform to good practice, protect your valuable A/C service equipment, and give you a competitive edge.

These examples offer a a comparison between the models on this page.

Test Results	
R-1234yf	90.00%
R-134a	0.00%
R-22	5.00%
Hydrocarbons	5.00%
Unknown	0.00%
Air	0.00%

LEGEND ID R1234yf result red alert

R-410A	
R-22	0.0%
R-32	50.3%
R-125	49.7%
R-134a	0.0%
Hydrocarbons	0.00%
Unknown	0.00%
Air	0.00%

LEGEND HFC result - with spec

Result of Analysis	
R134a	: %
R1234yf	: %
AIR	: %
TEST#	:

Infratronic result

Mini ID R134a	
PASS	FAIL



AC25653

LEGEND R1234yf/R134a Refrigerant Analyser

The original Neutronics technology measures analyses and displays percentages of R1234yf, R134a, R12 and contaminants R22, HCs, Air and 'unknown'.

AC25100

Infratronic Refrigerant ID

New model with results showing percentages of R134a, R1234yf and Air



AC25218

Mini-ID R134a

The quick and easy way to check the veracity of the refrigerant in your cylinders or the system under test. Pass or Fail result only



AC25219

Mini-ID R1234yf



AC25220

LEGEND HFC HVACR Refrigerant Analyser

The ultimate Neutronics technology measures, analyses and displays percentages of R22, R32, R134a, R404A, R407C, R410a, HCs and Air. Also identifies the presence of R12, R1234yf, R408A, R409A, R417A, R421A, R421B, R422A, R422B, R422C, R427A, and HCs.

New, late entries and ends of line

AC2015H-14



R134a service coupler high side

AC2049



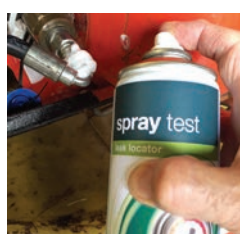
Sight Glass Moisture Indicator

AC2142P



Orifice tube removal tool set

AC2172



SprayTest Leak locator Spray

AC2315



Flush clamp boxed kit2

AC2211



Metric Tread Chaser set 8 sizes

AC3233



Popular 80-piece Mobile AC O-Ring Kit

AC6680



12V Battery Clips & Fem. carplug Socket

AC29304



Cliplight Firefly Precision Vision Gauge set with illuminated sight glass

CL2161



MiniBright Spotlight torch

AC2252



Valve core replacement tool set

UV2051A



Primatelec belt bag with shoulder strap 8x15x17cm

New

AC2687

Leaktronic-7 CO₂/R744 Leak Detector


Microprocessor controlled with advanced digital signal control, this instrument's optical gas sensor finds CO₂ leaks in many different types of equipment. It is especially sensitive to R744 refrigerant used in heat pumps, chillers, commercial refrigeration and mobile air conditioning systems.

MOBILE AIR CONDITIONING LUBRICANT CROSS REFERENCE CHART					
Cross refs	Oil type	Refrigerant types	PrimaLec Code		VM or CM
			AircoLube	Snow Leopard	
1161407-0	PAG46	R134a	AC2173	AC53046 or AC55046	Volvo/Zexel
1161425-2					Volvo/Sanden
1161426-0	PAG100	R134a	AC2174	AC55100	Volvo
1161627-0		R134a			Volvo
16 4074 787	PAG100	R134a	AC2174	AC55100	Saab (Seiko Seiki)
16 4759 106	PAG46	R134a	AC2173	AC53046 or AC55046	Saab
16475 9106	PAG46	R134a	AC2173	AC53046 or AC55046	
3136 9128	HFO-PAG	R1234yf		AC55046	Volvo
81 229 407 724		R134a			BMW - Denso
9044 3840		R134a			Vauxhall-Opel
9050 9933		R134a			Vauxhall-Opel
9051 0394		R134a			Vauxhall-Opel
9051 0395		R134a			Vauxhall-Opel
9051 0419		R134a			Vauxhall-Opel
99000-99022-00E					Suzuki
99000-99088-00D0					Suzuki
A001 989 0803	PAG46	R134a	AC2173	AC53046 or AC55046	Mercedes
Atmos 150		R134a	AC2175		Mazda
Atmos GU10	PAG46	R134a	AC2173	AC53046 or AC55046	Mazda
DH-PR	PAG100	R134a	AC2173	AC53046	Nissan, Mitsubishi, Nissan
DH-PS	PAG46	R134a	AC2173	AC53046 or AC55046	Infiniti, Nissan, Renault
DH-PSD1	HFO-PAG100	R134a/R1234yf		AC55100	Alfa Romeo,
FD46XG	HFO-PAG46	R134a/R1234yf		AC55046	Hyundai, Kia, Mazda, VW Group
GO52 100 A2					VW Group
GO52 154 A2	PAG46	R134a	AC2173	AC53046 or AC55046	VW Group
GO52 154/200 A2					VW Group
GO52 300A2	PAG46	R134a	AC2173	AC53046 or AC55046	VW Group
GO52 535 M					VW Group
JLM 12260	PAG46	R134a	AC2173	AC53046 or AC55046	JLR
KLHOO-PAGRO		R134a			Nissan
KLHOO-PAGSO		R134a			Nissan
MA68EV	POE	R134a/R1234yf		AC54085	Citroen, Dacia, Nissan, Mitsubishi, Peugeot, Porsche
ND-11	POE	R134a		AC54085	Audi, Denso, Lexus, Nissan, Opel, Vauxhall, Renault, Tesla, Toyota
ND-12	HFO-PAG	R134a/R1234yf		AC55046	Denso, Jeep, Lexus, Mercedes, Nissan, Peugeot, Porsche, Renault, Subaru, Suzuki, Toyota, VW
ND-14	POE	R134a/R1234yf		AC54085	Honda
ND-8	PAG46	R134a	AC2173	AC53046 or AC55046	Audi, BMW, Chrysler USA, Citroen, Daihatsu, Denso, Dodge, Fiat, Honda, Jeep, Lexus, Mercedes, Opel, Vauxhall, Peugeot, Porsche, Seat, Skoda, Subaru, Suzuki, Toyota, VW
ND-9	PAG100	R134a	AC2174	AC55100	Alfa Romeo, Denso, Lexus,
Nissan type R		R134a	AC2173	AC53046 or AC55046	Nissan
NO52 154 VXOO	PAG46	R134a	AC2173	AC53046 or AC55046	
Planetelf PAG 488	PAG150	R134a	AC2175		
RL 244	PAG52		AC2173	AC55046	
RL-897	PAG46	R134a	AC2173	AC53046 or AC55046	Skoda, VW
RL897-E0IV	PAG68	R134a			
RS20	PAG100		AC2174		Suzuki
S10X	PAG100	R134a	AC2174	AC55100	
Sanden E13 M6		R134a			
SDH-RS		R134a			Nissan
SE-10Y	POE	R134a		AC54085	Honda, Mercedes
SK-20					BMW, Seiko Seiki,
SP10	PAG46	R134a	AC2173	AC53046 or AC55046	Alfa Romeo, Citroen, Dacia, Ford, Honda, , Mercedes, Nissan, Opel, Vauxhall, Peugeot, Renault, Saab, Seat, Skoda, VW, Volvo
SP15	PAG150	R134a	AC2175	AC53150	
SP20	PAG100	R134a	AC2174	AC53100 or AC55100	Mitsubishi,
SPA2	HFO-PAG	R1234yf	-	AC55046	BMW, Citroen, Jaguar, Land Rover, Mercedes, Peugeot, VW, Volvo
Sunpag 56	PAG	R134a	AC2173	AC53046 or AC55046	Mitsubishi
UCON RL 244	PAG ISO52	R134a			
UCON RL 488	PAG ISO132	R134a	AC2175	AC53150	Citroen, Renault
UCON RL-897	PAG ISO61	R134a (electric?)			
VC200YF	HFO-PAG100	R1234yf or R134a	-	AC55100	Mazda, Mitsubishi, Renault, Smart, Subaru
VC100YF	HFO-PAG100	R1234yf or R134a	-	AC55100	Mazda, Mitsubishi, Renault, Smart, Subaru and others
TM Series	HFO-PAG100	R1234yf	-	AC55100	Valeo
WSH M1C321-B	PAG46	R1234yf		AC55046	Ford
WSH M1C321-B	HFO-PAG46	R1234yf		AC55046	Ford
YN-12-B	PAG46	R134a	AC2173	AC53046 or AC55046	
YR20					Nissan
Zerol HD100	HFP-PAG100	R1234yf	-	AC55100	Chevrolet, Citroen, Peugeot
ZXL 100PG	PAG46	R134a	AC2173	AC53046 or AC55046	Alfa Romeo, Audi, Citroen, Dacia, Isuzu, Mitsubishi, Nissan, Renault
ZXL 200PG	PAG100	R134a	AC2174	AC53100 or AC55100	Citroen, Dacia, Isuzu, Mitsubishi, Peugeot, Subaru
RL2000	POE	R134a		AC54085	



Lubricant selection chart

MOBILE AIR CONDITIONING OIL APPLICATION CHART						
Refrigerant Type	Compressor type	Oil Type	Cross ref examples	PrimaLec Code		
				AircoLube	Snow Leopard	
R134a	Belt driven	PAG 46	ND-8, SP10, ZXL100, WSH-M1C231-B, YN-12, JLM12260, NOS2-154-VXOO	AC2173	AC53046	AC55046
		PAG 100	ND-9, SP20, ZXL200, RS20	AC2174	AC53100	AC55100
		PAG 150	SP15, UCON-488	AC2175	AC53150	-
	Electric	HFO-PAG46e		-		AC55046
		HFO-PAG100		-		AC55100
		POE	ND-11, SE-10Y, MA68EV	AC2177		AC54085
R1234yf	Belt driven	HFO-PAG46e	ND-12, SPA2, PS-D1, WSH-M1C321-B, VC200yf, FD46XG	-	-	AC55046
		HFO-PAG100		-	-	AC55100
	Electric	HFO-PAG46e	FD46XG is a hermetic PAG	-	-	AC55046
		HFO-PAG100e				AC55100
		HFO-POE	ND-11	-	-	AC54085
	Snow Leopard R1234yf oils are also compatible with R134a. HFO-PAG46e & HFO-PAG100 are double end-capped polyalkylene glycol oils with optimal additisation that meet OEM specifications. HFO-PAG46e may be used in all mobile AC systems, whether belt driven or electric, for which a PAG is specified by the VM. MRL85 is a POE based lubricant that meets OEM specifications for use in all MAC systems for which a POE is specified by the VM.					
CO2 R744		EP-PAG46	Extreme PAG RL46 CO2 system lubricant			AC56046
		EP-PAG68	Extreme PAG RL68 CO2 system lubricant			AC56068
		EP-PAG100	Extreme PAG RL100 CO2 system lubricant			AC56100



Glo-Leak selection chart – Mobile A/C

GLO-LEAK UV MOBILE A/C APPLICATION CHART					Other leak detectors	
Refrigerant Type	Mobile Air Conditioner		Recommended		Leaktronic	Nitro Trace
	Compressor type	Oil Type	Glo-Leak types			
R134a (HFC)	Belt driven	PAG 46	GL1284/1184	GL1234	Leaktronic-5 AC2685	NitroTrace Leaktronic AC2314B4
		PAG 100	GL1284/1184	GL1234		
		PAG 150	GL1284/1184	GL1234		
	Electric	HFO-PAG46e	-	GL1234		
		HFO-PAG100	-	GL1234		
		POE	-	GL1234		
R1234yf (HFO)	Belt driven	HFO-PAG46e	-	GL1234		
		HFO-PAG100	-	GL1234		
	Electric	HFO-PAG46e	-	GL1234		
		HFO-POE	-	GL1234		
CO ₂		EP-PAG for CO2		GL1744		
Glo-Leak 1234 is blended to suit the particular stability requirements of HFO-1234yf and the dielectric criteria for electric compressors. It is used at low dosage rates, minimising the amount of additive required .					For Nitro Trace N2H tracer gas, use AC2686 Leaktronic-4	



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