

AUTOMOTIVE **AIR CONDITIONING** SYSTEMS AND  
INSTRUMENTS FOR **MAC** AND MOBILE **REFRIGERATION** | **2023**  
**2024**



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AUTOMOTIVE **AIR CONDITIONING** SYSTEMS AND  
INSTRUMENTS FOR **MAC** AND MOBILE **REFRIGERATION** | **2023**  
2024

Since 1976 environmentally friendly technics and equipments



# A long history since 1976

Castel San Niccolò (Italia)

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Wigam S.p.a.



Cert. Nr. 50 100 3770

## Our Publications



**REFRIGERATION and AIR  
CONDITIONING Catalogue**



**AUTOMOTIVE  
Catalogue**

## LEGEND

● Present

○ Optional

✗ Not present

M Manual

\* Standard for Optima/P

\*\* Standard for OPTIMA/A

# Retrofit gas (contact WIGAM)



**PICCOLA  
R744**



**OPTIMA  
VARIANT**



**OPTIMA+  
VARIANT**



**OPTIMA+/A  
VARIANT**

	PICCOLA R744	OPTIMA VARIANT	OPTIMA+ VARIANT	OPTIMA+/A VARIANT
Refrigerants	R744	R134a-R1234yf#	R134a-R1234yf#	R134a-R1234yf#
Automatic recovery/discharge	●	●	●	●
Automatic vacuum	●	●	●	●
Automatic refrigerant charge	●	●	●	●
Number of bottles with dedicated load cells	3	3	3	3
Refrigerant scale resolution	5 g	5 g	5 g	5 g
Oil/UV scale resolution	1 g	1 g	1 g	1 g
Automatic oil/UV charge (with scale)	●	●	●	●
Automatic oil discharge (with scale)	●	●	●	●
Hybrid and electric car management	●	●	●	●
Flushing software (suitable with R134-1234FS/4-6/ZM)	-	●	●	●
Automatic identification of leaks (vacuum test)	●	●	●	●
Test with NITROGEN/AZOIDRO	●	●	●	●
Service connection for injection/pressurization I.C.S.	-	●	●	●
Lock scale A.L.S. / Lock bottle	●	●	●	●
Beginning Check System (B.C.S.) Intelligent Alert System (I.A.S.)	●	●	●	●
Database can be updated	●	●	●	●
Printer	●	○*	●	●
Refrigerant analyzer	-	○**	○**	●
Computerized discharge of non condensable gases	-	M	●	●
Automatic valves (LOW-HIGH)	●	M	●	●
Recovery of the refrigerant up to	-	95%	99%	99%
ZERO emissions during oil discharge	-	✗	●	●
Climate regulation pressure bottle	●	✗	●	●
Recovery rate	≈ 60 g/min	300 g/min	300 g/min	300 g/min
Vacuum pump swept volume	100 l/min	100 l/min	100 l/min	100 l/min
Bottle capacity	14 lt (not included)	10 kg	10 kg	10 kg



## LEGEND

- Present
- Optional
- ✗ Not present
- M Manual
- \* Standard for Optima/P
- \*\* Standard for OPTIMA/A
- # Retrofit gas (contact WIGAM)

X-CROSS VARIANT	X-TREME/20 MULTIVARIANT	150-HP MULTIVARIANT	OPTIMA R744-BUS	
R134a-R1234yf#	R134a-R1234yf-R404A R407C-R452A#	R134a-R1234yf-R404A R407C-R452A#	R744	Refrigerants
●	●	●	●	Automatic recovery/discharge
●	●	●	●	Automatic vacuum
●	●	●	●	Automatic refrigerant charge
2	2	2	3	Number of bottles with dedicated load cells
5 g	5 g	5 g	5 g	Refrigerant scale resolution
1 g	1 g	1 g	1 g	Oil/UV scale resolution
●	●	●	●	Automatic oil/UV charge (with scale)
●	●	●	●	Automatic oil discharge (with scale)
●	●	●	●	Hybrid and electric car management
●	●	●	-	Flushing software (suitable with R134-1234FS/4-6/ZM)
●	●	●	●	Automatic identification of leaks (vacuum test)
●	●	●	●	Test with NITROGEN/AZOIDRO
●	●	●	-	Service connection for injection/pressurization I.C.S.
● / ●	●	●	● / ●	Lock scale A.L.S. / Lock bottle
●	●	●	●	Beginning Check System (B.C.S.) Intelligent Alert System (I.A.S.)
●	●	●	●	Database can be updated
●	●	●	●	Printer
✗	✗	✗	-	Refrigerant analyzer
M	M	M	-	Computerized discharge of non condensable gases
M	M	M	●	Automatic valves (LOW-HIGH)
95%	95%	95%	-	Recovery of the refrigerant up to
✗	✗	✗	-	ZERO emissions during oil discharge
✗	✗	✗	●	Climate regulation pressure bottle
300 g/min	400 g/min	1000 g/min	≈ 300 g/min	Recovery rate
100 l/min	100 l/min	230 l/min	230 l/min	Vacuum pump swept volume
10 kg	20 kg	40 kg	40 l double tap (not included)	Bottle capacity





# Piccola R744

## FULLY AUTOMATIC UNIT FOR AIR-CONDITIONING SYSTEMS OPERATING WITH R744 (CO<sub>2</sub>)

Thanks to its new 7" touch screen, the ease of use is similar to that of the OPTIMA series units.



### TECHNOLOGY AND SIMPLICITY FOR THE NEW R744 (CO<sub>2</sub>) SYSTEMS

**PICCOLA-R744** is the unit designed and manufactured by Wigam for the new generation of **R744 (CO<sub>2</sub>)** air-conditioning systems that are increasingly present in new electrically driven vehicles.

**PICCOLA-R744** works completely automatically and guarantees total safety throughout the process. The innovative electronics with the 7" touchscreen display makes **PICCOLA-R744** the ideal unit for a simple system maintenance.

The 3 independent scales with 1 g resolution, managing oils and additives, allow to operate in a safe and reliable way. Through the **K-HERMETIC KIT**, the unit can be immediately set up to work with hermetically sealed dosimeters.

WIGAM's solution of a channelled discharge offers a higher safety in the working environment.



AUTOMATIC MANAGEMENT  
OF ALL PHASES



GRAPHICAL DATABASE BY  
BRAND



WIGAM SERVICE PORTAL  
(OPTIONAL)





## Technical features

Refrigerants	R744 (CO <sub>2</sub> )
Discharge rate	≈ 60 g/min
Hoses (LOW/HIGH)	3 m with quick couplers
Discharge hoses	5 m
Charging precision	+/- 15 g
Pump swept volume	100 l/min
Bottle compatibility	5-7-14 l
Refrigerant scale resolution	5 g
Oil/UV scales resolution	1 g
Dimensions (without packaging)	53 x 53 x 92 cm
Weight (without packaging)	37 kg



The OPTIONAL WI-FI KIT allows interconnection to the WIGAM service portal with the resulting potential.

Suitable for different R744 cylinder sizes.

## MAIN FUNCTIONS

- Hybrid-read: Auto-Clean function for hybrid and electric vehicles.
- 7" touchscreen display.
- Fully automatic unit:
  - Automatic LOW and HIGH valves.
  - Automatic discharge with quantification.
  - Automatic Vacuum/Vacuum test.
  - Automatic oil discharge (with scale).
  - Automatic charge of PAG, POE and UV oils.
  - Automatic refrigerant charge.
  - Automatic personalized cycle (discharge-vacuum-charge).
  - Flushing cycle.
- 3 mt flexible hoses with quick couplers.
- 5 mt flexible hose for channelled discharge.
- Automatic alarm for maintenance: the unit notifies when you have to replace the oil in the vacuum pump.
- Continuous monitoring of the internal cylinder pressure.
- Auto-test every 20 days of the internal circuit tightness.
  - Pressure test with refrigerant before the charging phase.
  - Pressure test with nitrogen or AZOIDRO (N<sub>2</sub>-H<sub>2</sub>).
  - Integrated room temperature probe.
- Automatic anti-shock system of the refrigerant scale.
  - 3 independent scales for oils and additives.
  - Automatic compensation of the service hoses length.
- Standard printer.
  - Report on paper with garage data/operator/vehicle.
  - Database that can be updated through USB key.
- Set up for interconnection through Wi-Fi kit (optional).
  - Wigam Service Portal, accessible via PC and smartphone, for handling and exchange of information and report (Wi-Fi kit necessary).
- Ready to work with hermetic dosimeters (optional).

Code	Model	Description
13003103	PICCOLA-R744	R744 automatic unit with printer
14025171	K-WIFI	Wi-Fi kit
14028033	K- HERMETIC/744	Hermetic dosimeters kit



HERMETIC DOSIMETERS KIT  
(OPTIONAL)



## AUTOMATIC RECOVERY, RECYCLING, VACUUM AND CHARGING UNIT WITH NEW TOUCH SCREEN



### A SINGLE UNIT DESIGNED FOR R1234yf OR R134a

**OPTIMA** represents the new generation of stations for recovery, recycling, vacuum and charge for the maintenance and repair of vehicle air conditioning systems.

Totally designed and produced by WIGAM, **OPTIMA** includes the most innovative features on the market today, combining **"TECHNOLOGY AND SIMPLICITY"** in perfect harmony.

The 3 independent scales with 1g resolution, managing Oils and Additives, allow to operate in a safe and reliable way on Hybrid and Full Electric Vehicles.

**OPTIMA** is also set up to work with Hermetic Disposable Dosimeters, through the purchase of the special kit.

**OPTIMA** is the follow-up of the family of **WIGAM'S VARIANT** models. An only unit designed to be able to work with either R134a or R1234yf. By means of the purchase of the special completion kit, the unit will be selected for the requested refrigerant during the first starting phase and through a retrofit operation, **OPTIMA** can be converted to the use of the other refrigerant.

Thanks to its New 7" Touch Screen Display, **OPTIMA** can be set up according to one's own working habits, by choosing among multiple options and personalizing the daily use.

### EQUIPMENT OPERATION LIGHT INDICATOR



7" TOUCH SCREEN



CHART DATABASE BY BRAND



OPTIONAL ANALYZER KIT



## Technical features

Refrigerants	R134a - R1234yf
Recovery rate	300 g/min
Recovery accuracy	+/-15g
Recovery efficiency	>95%
Pump swept volume	100 l/min
Bottle capacity	10 kg
Refrigerant scale resolution	5 g
Oil/UV scale resolution	1 g
Dimensions (without packaging)	54 x 56 x 118 cm
Weight (without packaging)	64 kg

The OPTIONAL WI-FI KIT allows interconnection to the WIGAM service portal with the resulting potential.



K-134



K-1234

R456A  
R513A



B.C.S. BEGINNING CHECK SYSTEM  
I.A.S. INTELLIGENT ALERT SYSTEM

## MAIN FUNCTIONS

### • HYBRID-READY: AUTO-CLEAN function for hybrid and electric vehicles.

- Automatic unit:
  - Automatic Recovery /Recycling.
  - Automatic Vacuum / Vacuum test.
  - Automatic oil discharge (with scale).
  - Automatic PAG, POE and UV oil charge.
  - Automatic refrigerant charge.
  - Automatic personalized cycle (recovery-vacuum-charge).
  - Flushing cycle.
- Database upgradeable with USB memory.
- Versions with (mod. OPTIMA/P) and without printer (mod. OPTIMA).
- Customized paper report with workshop/operator data/vehicle data.
- Automatic alarm for service: the unit advises when you have to replace the filter and the oil in the vacuum pump (I.A.S.).
- Automatic bottle pressure control.
- Periodic auto-test: the unit checks the internal circuit tightness every 20 days.
- Autotest of the non-condensables gases: the unit checks the bottle every 10 days.
- Pressure test with refrigerant before the charging phase.
- Service connection on low pressure hose (I.C.S.).
- Pressure test with nitrogen or AZOIDRO (N2+H2).
- Distillation with automatic control.
- Integrated room temperature probe.
- Set up for interconnection through Wi-Fi kit (optional).
- Designed to integrate the new VARIANT analyzer for R134a/ R1234yf (optional) managed directly via optima touch screen.
- Prepared to integrate the new VARIANT analyzer for R134a/R1234yf (Optional) operated directly via the OPTIMA touch screen.
- Ready to work with hermetic disposable dispensers (Optional).
- Upgradeable for use with the main replacement gases for R134a as R456A and R513A (contact Wigam for specific compatibility).

Code	Model	Description
13003093	OPTIMA-VARIANT	Automatic unit R/R/V/C
13003094	OPTIMA/P-VARIANT	Automatic unit R/R/V/C with printer
14010100	K-134	Kit connections and 2500 mm flexible hoses for R134a
14010101	K-1234	Kit connections and 2500 mm flexible hoses for R1234yf
09017024	K-ANALYZER-VARIANT	Analyzer Kit
14028031	K-HERMETIC	Hermetic dosimeters kit UV+POE+PAG46+PAG100+connections
14028032	K-HERMETIC/POE	Hermetic dosimeters kit UV+POE+connections
14025171	K-WIFI	Wi-Fi kit



# optima+




## FULLY AUTOMATIC RECOVERY, RECYCLING, VACUUM AND CHARGING UNIT WITH NEW TOUCH SCREEN



Thanks to its New 7" Touch Screen Display, OPTIMA can be set up according to one's own working habits, by choosing among multiple options and personalizing the daily use.



### A SINGLE UNIT DESIGNED FOR R1234yf OR R134a

OPTIMA+ is the follow up of the new generation of A/C units for recovery, recycling, vacuum and charge for the maintenance and repair of vehicle air-conditioning systems.

This model can work completely autonomously, thanks to the inclusion of the low and automatic high valves.

The 3 independent scales with 1g resolution, managing oils and additives, allow to operate in a safe and reliable way on Hybrid and full Electric Vehicles. The high accuracy standard, together with the new objective of "ZERO" refrigerant leaks during the oil discharge phase, and the fully automatic management of the discharge of non-condensable gases, ensure that this model complies with the strictest standard dictated by the German car manufacturers.

#### EQUIPMENT OPERATION LIGHT INDICATOR



**ZERO EMISSION**  
Zero refrigerant leaks during the oil discharge phase



**CHART DATABASE BY BRAND**



**OPTIONAL ANALYZER KIT**







## Technical features

Refrigerants	R134a - R1234yf
Recovery rate	300 g/min
Recovery accuracy	+/-15g
Recovery efficiency	>99%
Charge accuracy	+/- 15g
Pump swept volume	100 l/min
Bottle capacity	10 kg
Refrigerant scale resolution	5 g
Oil/UV scale resolution	1 g
Dimensions (without packaging)	54 x 56 x 118 cm
Weight (without packaging)	64 kg

The OPTIONAL WI-FI KIT allows interconnection to the WIGAM service portal with the resulting potential.



K-134



K-1234

**R456A  
R513A**



INCONDENSABLE  
AUTOMATIC DISCHARGE

## MAIN FUNCTIONS

- **HYBRID-READY: AUTO-CLEAN function for hybrid and electric vehicles.**
- Fully automatic unit:
  - Low and High automatic valves
  - Automatic Recovery /Recycling.
  - Automatic Vacuum / Vacuum test.
  - Automatic oil discharge (with scale).
  - Automatic PAG, POE and UV oil charge.
  - Automatic refrigerant charge.
  - Automatic personalized cycle (recovery-vacuum-charge).
  - Flushing cycle.
- **Zero refrigerant emission during the exhaust oil discharge phase.**
- Maximum accuracy of the refrigerant quantity both in the charging phase (+/- 15g) and in the recovery phase, equal to 99% of the total quantity.
- Database upgradeable with USB memory.
- Standard printer. Customized paper report with workshop/ operator/vehicle data.
- Automatic alarm for service: the unit advises when you have to replace the filter and oil in the vacuum pump. (I.A.S.).
- **Continuous monitoring of internal cylinder pressure.**
- **Automatic discharge control of not condensable gases.**
  - Periodic auto-test: the unit checks the internal circuit tightness every 20 days.
  - Pressure test with refrigerant before the charging phase.
  - Pressure test with nitrogen or AZOIDRO (N2+H2).
  - Distillation with automatic control.
  - Integrated room temperature probe.
- **Automatic temperature control of the refrigerant heater cylinder.**
- Set up for interconnection through Wi-Fi kit (optional).
- **Ready to integrate the new refrigerant analyzer Variant for R1234yf/R134a (optional) managed directly via the OPTIMA+ touch screen.**
- Ready to work with hermetic disposable dosimeters (optional).
- Upgradeable for use with the main replacement gases for R134a as R456A and R513A (contact Wigam for specific compatibility).

Code	Model	Description
13003097	OPTIMA+ VARIANT	Automatic unit R/R/V/C with printer
14010100	K-134	Kit connections and 2500 mm flexible hoses for R134a
14010101	K-1234	Kit connections and 2500 mm flexible hoses for R1234yf
09017024	K-ANALYZER-VARIANT	Analyzer kit
14028031	K-HERMETIC	Hermetic dosimeters kit UV+POE+PAG46+PAG100+connections
14028032	K-HERMETIC/POE	Hermetic dosimeters kit UV+POE+connections
14025171	K-WIFI	Wi-Fi kit



## FULLY AUTOMATIC RECOVERY, RECYCLING, VACUUM AND CHARGING UNIT WITH INTEGRATED ANALYZER

Thanks to its New 7" Touch Screen Display, OPTIMA+/A can be set up according to one's own working habits, by choosing among multiple options and personalising the daily use.



### A SINGLE UNIT DESIGNED FOR R1234yf OR R134a

OPTIMA+/A is the follow up of the new generation of A/C units for recovery, recycling, vacuum and charge for the maintenance and repair of vehicle air-conditioning systems.

This model can work completely autonomously, thanks to the inclusion of automatic LOW and HIGH automatic valves. The 3 independent scales with 1g resolution, managing oils and additives, allow to operate in a safe and reliable way on Hybrid and full Electric Vehicles. The high accuracy standard, together with the new objective of "ZERO" refrigerant leaks during the oil discharge phase, and the fully automatic management of the discharge of non-condensable gases, ensure that this model complies with the strictest standard dictated by the German car manufacturers.

OPTIMA+/A is supplied with the gas analyzer Built-In hydraulically as standard. This variant allows fully automatic use even during the analysis phase, without disconnecting from the vehicle.



### EQUIPMENT OPERATION LIGHT INDICATOR



UV CHARGE



OIL CHARGE



RECOVERY



VACUUM



**ZERO EMISSION**  
Zero refrigerant leaks during the oil discharge phase



**AUTOMATIC REFRIGERANT COMPOSITION ANALYSIS**



**AUTOMATIC REFRIGERANT COMPOSITION ANALYSIS**



## Technical features

Refrigerants	R134a - R1234yf
Recovery rate	300 g/min
Recovery accuracy	+/-15g
Recovery efficiency	>99%
Charge accuracy	+/- 15g
Pump swept volume	100 l/min
Bottle capacity	10 kg
Refrigerant scale resolution	5 g
Oil/UV scale resolution	1 g
Dimensions (without packaging)	54 x 56 x 118 cm
Weight (without packaging)	66 kg

The OPTIONAL WI-FI KIT allows interconnection to the WIGAM service portal with the resulting potential.



K-134



K-1234

R456A  
R513A

- Upgradeable for use with the main replacement gases for R134a as R456A and R513A (contact Wigam for specific compatibility).



INCONDENSABLE  
AUTOMATIC DISCHARGE

## MAIN FUNCTIONS

- **HYBRID-READY: AUTO-CLEAN** function for hybrid and electric vehicles.

- Fully automatic unit:

- Automatic refrigerant composition analysis.

- Low and High automatic valves.

- Automatic Recovery /Recycling.

- Automatic Vacuum / Vacuum test.

- Automatic oil discharge (with scale).

- Automatic PAG, POE and UV oil charge.

- Automatic refrigerant charge.

- Automatic personalized cycle (recovery-vacuum-charge).

- Flushing cycle.

- **ZERO refrigerant emission during the exhaust oil discharge phase.**

- Maximum accuracy of the refrigerant quantity both in the charging phase (+/- 15g) and in the recovery phase, equal to 99% of the total quantity.

- Database upgradeable with USB memory.

- Standard printer. Customized paper report with workshop/operator/ vehicle data.

- Automatic alarm for service: the unit advises when you have to replace the filter and oil in the vacuum pump. (I.A.S.).

- **Continuous monitoring of internal cylinder pressure.**

- **Automatic discharge control of not condensable gases.**

- Periodic auto-test: the unit checks the internal circuit tightness every 20 days.

- Pressure test with refrigerant before the charging phase.

- Pressure test with nitrogen or AZOIDRO (N2+H2).

- Distillation with automatic control.

- Integrated room temperature probe.

- **Automatic temperature control of the refrigerant heater cylinder.**

- Set up for interconnection through Wi-Fi kit (optional).

- **Automatic and built-in VARIANT (R134a/R1234yf) refrigerant analyzer with composition analysis.**

- Ready to work with hermetic disposable dosimeters (optional).

Code	Model	Description
13003099	OPTIMA+/A VARIANT	Automatic unit R/R/V/C with printer and analyzer
14010100	K-134	Kit connections and 2500 mm flexible hoses for R134a
14010101	K-1234	Kit connections and 2500 mm flexible hoses for R1234yf
14028031	K-HERMETIC	Hermetic dosimeters kit UV+POE+PAG46+PAG100+connections
14028032	K-HERMETIC/POE	Hermetic dosimeters kit UV+POE+connections
14025171	K-WIFI	Wi-Fi kit



# X-CROSS



## COMPACT AUTOMATIC UNIT FOR RECOVERY, RECYCLING, VACUUM AND CHARGE FOR AGRICULTURAL AND HEAVY DUTY VEHICLES



The 7" Touch Heavy Duty display, suitable for use with work gloves, features large ICONS that allow immediate management of the MAIN FUNCTIONS.

Analogue gauges



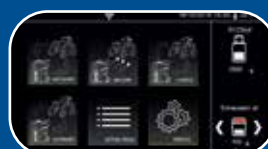
## THE IDEAL MACHINE FOR MOBILE SERVICE

The new **X-CROSS** unit is dedicated to sectors where service is performed outside the workshop, such as agricultural and earthmoving equipment. Compact, handy and equipped with several handles, it is particularly suitable to be transported directly to the intervention site in complete safety.

The special locking system of the bottle on the scale enables a safe handling even on uneven grounds. The heavy-duty metal frame with two rear wheels ensures an optimal stability even during transport in a van. All the functions and accesses, designed to be available from the front, make **X-CROSS** unit also ideal in case of fixed positioning inside a vehicle.

By purchasing the appropriate completion kit, the unit will be selected for the required refrigerant, during the start-up.

Through a retrofit operation, **X-CROSS** unit can also be converted to the use of the other refrigerant.



7" HEAVY DUTY CONTROL MODULE WITH INTUITIVE AND FUNCTIONAL BACKLIT DISPLAY



INTEGRATED CONDENSER





## Technical features

Refrigerants	R134a - R1234yf
Recovery rate	300 g/min
Recovery accuracy	+/-15g
Recovery efficiency	>95%
Pump swept volume	100 l/min
Bottle capacity	10 kg
Refrigerant scale resolution	5 g
Oil/UV scale resolution	1 g
Dimensions (without packaging)	62 x 55 x 93 cm
Weight (without packaging)	66 kg

The OPTIONAL WI-FI KIT allows interconnection to the WIGAM service portal with the resulting potential.



Standard printer



K-134



K-1234

R456A  
R513A



BOTTLE LOCKING SYSTEM

## MAIN FUNCTIONS

- Sturdy and stable compact frame with multiple handles for easy handling.
- Ideal for placement in a van thanks to the front connections and access for maintenance.
- Recommended for working in unfavourable environmental conditions also thanks to the integrated condenser.
- Locking of the bottle for a safe handling .
- HYBRID-READY: AUTO-CLEAN function for hybrid and electric vehicles.
- 7" HEAVY DUTY control module with backlit intuitive and functional display.
- Additional analogue pressure gauges (LOW, HIGH and bottle pressure).
- Automatic unit:
  - Automatic Recovery/Recycling.
  - Automatic Vacuum/Vacuum test.
  - Automatic oil discharge (with scale)
  - Automatic oil/UV charge
  - Automatic refrigerant charge.
  - Automatic personalized cycle (Recovery-vacuum-charge).
- Built-in valve for non-condensable gases discharge
- Built-in ambient temperature probe.
- 2 independent scales for oils and additives.
- Automatic alarm for maintenance: the unit warns when it is necessary to change the oil in the vacuum pump.
- Pressure test with refrigerant before the charging phase.
- Distillation system with automatic control.
- Automatic system of protection of the refrigerant bottle.
- Completion kit with INJECTION CONNECTION SYSTEM.
- Standard thermal printer.
- Customisable paper report with data of the workshop/operator/vehicle.
- Database that can be updated via USB memory.
- Unit ready for interconnection through Wi-Fi kit (Optional).
- Wigam Service Portal, accessible through PC and smartphone, form management, information exchange and reports (Wi-Fi kit necessary).
- Can be updated for use with the main replacement gases of R134a, such as R456A and R513A (contact Wigam for specific compatibilities).

Code	Model	Description
13003104	X-CROSS-VARIANT	Automatic unit R/R/V/C with printer
14010100	K-134	Kit connections and 2500 mm flexible hoses for R134a
14010101	K-1234	Kit connections and 2500 mm flexible hoses for R1234yf
14010109	K-MR/200	Kit connections and 5000mm flexible hoses for R134a
14025171	K-WIFI	Kit Wi-Fi



## AUTOMATIC RECOVERY, RECYCLING VACUUM AND CHARGING UNIT FOR MEDIUM-CAPACITY SYSTEMS



Standard printer.



## THE MOST VERSATILE UNIT IN THE WIGAM FAMILY

X-TREME/20 MULTIVARIANT represents the most versatile model of the WIGAM range and even of the market. **Is ready to work with several refrigerants** such as R134a-R404A-R407C-R452A-R1234yf and it is the only unit that can be programmed also for new mixtures already on the market.

The unit is sturdy and was also designed to fit and be fixed perfectly inside a van, preserving the integrity of the scale and the inner bottle. Thanks to their deep technical knowledge in this field, WIGAM was able to manufacture a model able to withstand working exercises in even very unfavourable environmental conditions.

The presence of digital manometers on the display allows complete customization on the unit, based on the refrigerant set (MULTIVARIANT concept).



Condensatore integrato con doppio ventilatore



INTEGRATED  
BOTTLE 20KG



INTEGRATED 3-WAY VALVE OF  
BYPASS

to transfer the recovered refrigerant directly to an external cylinder



## Technical features

Refrigerants	R134a-R1234yf-R407C-R404A-R452A-R513A-R456A
Recovery rate	400 g/min
Pump swept volume	100 l/min
Bottle capacity	20 Kg
Refrigerant scale resolution	5 g
Oil/UV scale resolution	1 g
Dimensions (without packaging)	47 x 63 x 93 cm
Weight (without packaging)	85 kg

Thanks to its NEW 7" TOUCH SCREEN DISPLAY, it can be set up according to one's own working habits, by choosing among multiple options and personalizing the daily use.



The OPTIONAL WI-FI KIT allows interconnection to the WIGAM service portal with the resulting potential.



K-134



K-1234



K-MR/200



K-1234/200



**ICS INJECTION CONNECTION SYSTEM**  
Service connection on low pressure hose for UV oils injection and/or pressurization with nitrogen or AZOIDRO

## MAIN FUNCTIONS

- Ideal for agricultural means, earth movement machineries and refrigerated means.
- Particularly recommended to work in unfavorable environmental conditions (high temperatures).
- During the recovery function, possibility, through a 3-way valve, to stock the refrigerant (polluted, not pure, ...) in an external cylinder.
- **MULTIVARIANT:** great flexibility thanks to the complete customization of the indications offered by the screen according to the refrigerant used.
- **HYBRID-READY:** AUTO-CLEAN function for hybrid and electric vehicles.
- Integrated bottle 20 kg.
- Automatic unit:
  - Automatic Recovery /Recycling.
  - Automatic Vacuum / Vacuum test.
  - Automatic oil discharge (with scale).
  - Automatic oil/UV charge.
  - Automatic refrigerant charge.
  - Automatic personalized cycle (recovery-vacuum-charge).
  - Flushing cycle.
- Database upgradeable with USB memory.
- Standard printer. Customized paper report with workshop/operator/ vehicle data.
- Automatic alarm for service: the unit advises when you have to replace the filter and oil in the vacuum pump.
- Periodic auto-test: the unit checks the internal circuit tightness every 20 days.
- Pressure test with refrigerant before the charging phase.
- Pressure test with nitrogen or AZOIDRO (N<sub>2</sub>+H<sub>2</sub>).
- Distillation with automatic control.
- Automatic system to protect refrigerant scale.
- Integrated room temperature probe.
- Complement kit with I.C.S. (INJECTION CONNECTION SYSTEM).

Code	Model	Description
<b>13003096</b>	<b>X-TREME/20 MULTIVARIANT</b>	Automatic unit of R/R/V/C with printer
<b>14010100</b>	<b>K-134</b>	Kit connections and 2500 mm flexible hoses for R134a
<b>14010101</b>	<b>K-1234</b>	Kit connections and 2500 mm flexible hoses for R1234yf
<b>14010109</b>	<b>K-MR/200</b>	Kit connections and 5000 mm flexible hoses for R134a-R407C-R404A-R452A
<b>14010115</b>	<b>K-1234/200</b>	Kit connections and 5000 mm flexible hoses for R1234yf
<b>14010117</b>	<b>K-MR/320</b>	Kit connections with 8000mm for R134a-R407C-R404A-R452A-R456A-R513A
<b>14025171</b>	<b>K-WIFI</b>	Wi-Fi kit





## AUTOMATIC RECOVERY, RECYCLING, VACUUM AND CHARGING UNIT FOR HIGH-CAPACITY SYSTEMS



Thanks to its NEW 7" TOUCH SCREEN DISPLAY, it can be set up according to one's own working habits, by choosing among multiple options and personalizing the daily use.

LED indicator of operation.



## THE MOST EFFICIENT EQUIPMENT IN HIGH-CAPACITY CIRCUITS

With the 150-HP-MULTIVARIANT model, WIGAM boasts the record as the best unit on the market for the maintenance on the A/C systems of big capacity, such as buses, mobile refrigeration, trains and tramways. Despite its size and weight, unit 150-HP-MULTIVARIANT moves easily even on garage and workshops outside areas. It is set up to work with several refrigerants such as R134a-R404A-R407C-R452A-R1234yf, R456A and R513A. It can be programmed also for new mixtures already on the market.

Inside the unit, the components are suitable for the work stress that this model has to withstand; in fact all the main components are oversized. Thanks to its perfect balance of operation, the result of WIGAM's experience, 150-HP-MULTIVARIANT guarantees a recovery quantity equal to or higher than 1kg per minute, maintaining this level for a very long time, without reaching overpressures.

The presence of digital manometers on the display allows complete customization on the unit, based on the refrigerant set (MULTIVARIANT concept).



**OVERSIZED CONDENSER**  
for optimal performance at high temperatures.



**VACUUM PUMP**  
with swept volume 230 l/min (14 m³/h) and final vacuum level  $2 \times 10^{-2}$  mbar (15 microns).



**VALVOLA A 3 VIE DI BYPASS INTEGRATA,**  
per il trasferimento del refrigerante recuperato direttamente ad una bombola esterna.



Standard printer.



## Technical features

Refrigerants	R134a-R1234yf-R407C-R404A-R452A-R513A-R456A
Recovery rate	1000 g/min
Pump swept volume	230 l/min
Bottle capacity	40 Kg
Refrigerant scale resolution	5 g
Oil/UV scale resolution	1 g
Dimensions (without packaging)	87 x 55 x 133 cm
Weight (without packaging)	140 kg

Bottle check pressure gauge.



The OPTIONAL WI-FI KIT allows interconnection to the WIGAM service portal with the resulting potential.



K-134



K-1234



K-MR/200



K-1234/200



**ICS INJECTION CONNECTION SYSTEM**  
Service connection on low pressure hose for UV oils injection and/or pressurization with nitrogen or AZOIDRO.

## MAIN FUNCTIONS

- Ideal for high dimensions A/C systems (buses, trains, refrigerated trucks,...).
- Available without (mod. 150-HP) or with refrigerant charging pump (150-HP/PL).
- During the recovery function, possibility, through a 3-ways valve, to stock the refrigerant (polluted, not pure, ...) in an external cylinder.
- **MULTIVARIANT:** great flexibility thanks to the complete customization of the indications offered by the screen according to the refrigerant used.
- **HYBRID-READY:** AUTO-CLEAN function for hybrid and electric vehicles.
- Automatic unit:
  - Automatic Recovery /Recycling.
  - Automatic Vacuum / Vacuum test.
  - Automatic oil discharge (with scale).
  - Automatic oil/UV charge.
  - Automatic refrigerant charge.
  - Automatic personalized cycle (recovery-vacuum-charge).
  - Flushing cycle.
- Database upgradeable with USB memory.
- Integrated printer. Customized paper report with workshop/operator data/vehicle data.
- Automatic alarm for service: the unit advises when you have to replace the filter and oil in the vacuum pump.
- Periodic autotest: the unit check the internal circuit tightness every 20 days.
- Pressure test with refrigerant before the charging phase.
- Pressure test with nitrogen or AZOIDRO (N<sub>2</sub>+H<sub>2</sub>).
- Distillation with automatic control.
- Automatic system to protect refrigerant scale.
- Complement kit with I.C.S. (INJECTION CONNECTION SYSTEM).

Code	Model	Description
<b>13003098</b>	150-HP-MULTIVARIANT	Automatic unit R/R/V/C with printer
<b>13003100</b>	150-HP-MULTIVARIANT/PL	Automatic unit R/R/V/C with printer and refrigerant charging pump
<b>14010100</b>	K-134	Kit connections and 2500 mm flexible hoses for R134a
<b>14010101</b>	K-1234	Kit connections and 2500 mm flexible hoses for R1234yf
<b>14010109</b>	K-MR/200	Kit connections and 5000 mm flexible hoses for R134a-R407C-R404A-R452A
<b>14010115</b>	K-1234/200	Kit connections and 5000 mm flexible hoses for R1234yf
<b>14010117</b>	K-MR/320	Kit connections and 8000mm for R134a-R407C-R404A-R452A-R456A-R513A
<b>14025171</b>	K-WIFI	Wi-Fi kit

# OPTIMA-R744-BUS

## FULLY AUTOMATIC UNIT FOR LARGE-CAPACITY R744 (CO<sub>2</sub>) AIR-CONDITIONING SYSTEMS



Thanks to the 7" TOUCH SCREEN DISPLAY, the ease of use is fully comparable to that of the OPTIMA Series units.



## TECHNOLOGY AND SIMPLICITY FOR LARGE R744 (CO<sub>2</sub>) SYSTEMS

**OPTIMA-R744-BUS** is the unit designed and manufactured by WIGAM for the new generation of large-capacity R744 (CO<sub>2</sub>) air conditioning systems increasingly found in the electric traction **Bus and Rail industry**.

**OPTIMA-R744-BUS**, works completely automatically and guarantees a total safety during the complete process.

The 3 independent scales with a resolution of 1 g, for the handling of oils and additives, allow a safe and reliable operation.

The WIGAM solution of channelled discharge offers a higher safety in the working area. By means of the special hose, the discharge can be made directly to the outside or indirectly via the workshop vacuum cleaner.

Thanks to the 7" touch screen display, the ease of use is fully comparable to the one of OPTIMA Series units for refrigerants such as R134a or R1234yf. The optional Wi-Fi Kit also allows interconnection to the WIGAM Service Portal with the resulting countless potentials.



AUTOMATIC MANAGEMENT  
OF ALL PHASES



GRAPHIC DATABASE  
BY BRAND



WIGAM SERVICE PORTAL  
(OPTIONAL)



## Technical features

Refrigerants	R744 (CO <sub>2</sub> )
Discharge speed	≈ 300 g/min
Pipes (LOW/HIGH)	5 m with quick couplings
Discharge piping	10 m
Charging accuracy	+/- 15 g
Pump swept volume	230 l/min
Bottle compatibility	40 l double tap
Refrigerant scale resolution	5 g
Oil/UV scale resolution	1 g
Dimensions (without packaging)	60 x 92 x 119 cm
Weight (without packaging)	37 kg

Quick and easy CO<sub>2</sub> cylinder replacement.



Ready for connection via WI-FI KIT (OPTIONAL).

## MAIN FUNCTIONS

- Ideal for large-capacity R744 (CO<sub>2</sub>) air conditioning systems of the bus and rail industry.
- HYBRID-READY: AUTO-CLEAN function for hybrid and electric vehicles.
- 7" Touch screen display, intuitive and user-friendly.
- EQUIPMENT OPERATION LIGHT INDICATOR.
- Fully automatic unit:
  - Automatic LOW and HIGH valves.
  - Automatic discharge with quantification.
  - Automatic Vacuum/Vacuum Test.
  - Automatic oil discharge (with scale).
  - Automatic charge of PAG and POE oils and UV.
  - Automatic refrigerant charge.
  - Automatic personalized cycle (discharge-vacuum-charge).
- 5 m flexible hoses with quick couplers.
- 10 m hose for channelled discharge.
- Easy handling thanks to two rear handles.
- Quick and easy CO<sub>2</sub> cylinder replacement.
- Automatic alarm for maintenance: the unit warns when it is necessary to change the oil in the vacuum pump.
- Continuous check of the inner pressure of the cylinder.
- Auto-test of the internal circuit: the unit checks it every 20 days.
- Pressure test with refrigerant before the charging phase.
- Pressure test with nitrogen or AZOIDRO (N<sub>2</sub>+H<sub>2</sub>).
- Built-in ambient temperature probe.
- Automatic anti-shock system of the refrigerant scale.
- 3 independent scales for oils and additives.
- Automatic compensation of the service hoses length.
- Standard thermal printer.
- Customisable paper report with data of the workshop/operator/vehicle.
- Database that can be updated via USB memory.
- Unit ready for interconnection through Wi-Fi kit (Optional).
- Wigam Service Portal, accessible through PC and smartphone, form management, information exchange and reports (Wi-Fi kit necessary).



SIMPLE HANDLING

Code	Model	Description
<b>13003105</b>	<b>OPTIMA-R744-BUS</b>	R744 BUS automatic unit with printer
<b>14025171</b>	<b>K-WIFI</b>	Wi-Fi kit



## ACCESSORIES

### K-WIFI - INTERCONNECTION



The great user-friendliness of the **WIGAM 7"** touch screen Heavy Duty display and its smart approach also lies in the possibility of using Wi-Fi connectivity to make the A/C unit interconnected.

**K-WIFI** is the **PLUG&PLAY** solution that simply interconnects via Wi-Fi the WIGAM A/C units with the remote service and management portal.

**K-WIFI** is the size of a **USB stick** and can be installed at any time, fitting completely into the unit.

Once equipped with **K-WIFI**, the Automotive **WIGAM** units can therefore connect to the internet and interchange information bi-directionally with the cloud service and management portal.



The benefits of such a connection are many and the following are just some of the functionalities available through the WIGAM Portal4Service:

- **PLANING OPERATIONS AND INTERVENTIONS** to carry out with the unit.
- Having the **CHRONOLOGY OF OPERATIONS** and consequent **PRINTABLE REPORTS** available.
- **SHARING LIVE** the technical working parameters with the **ASSISTANCE**.
- Managing **SOFTWARE AND FIRMWARE UPDATES**.
- Managing **UPDATES** of **VEHICLES DATABASE**.
- Display the **MAINTENANCE COUNTERS** and the charging stations data.
- **PLANING** and receiving **NOTICES**.

Through the portal, you have a full view of all your interconnected stations.

**K-WIFI** is compatible with all WIGAM A/C charging stations that have the 7" Touch display.

Code	Model	Description
14025171	K-WIFI	Wi-Fi kit



K-WIFI is the **PLUG&PLAY** solution that simply interconnects WIGAM A/C units



PORTAL HOMEPAGE



MANAGEMENT/HISTORICAL OPERATIONS





R134a  
R1234yf

K-ANALYZER-VARIANT

## K-ANALYZER REFRIGERANT ANALYZER

**K-ANALYZER-VARIANT** is the **PLUG&PLAY** solution that simply allows the installation of the latest generation refrigerant analyzer in the **OPTIMA** and **OPTIMA+** units, at any time, in order to eliminate the risks and costs caused by the use of an unsuitable refrigerant.

**K-ANALYZER-VARIANT** becomes an integral part of the unit and dialogues directly with the unit's software.

The management and display of the information about the analysis is easily made available on the unit large 7" display. The screen guides the operator in the analysis step by step.

**K-ANALYZER** is suitable for the **VARIANT** Wigam models.

A single analyzer designed to check the composition of both R1234yf and R134a. In fact, the analysis does not only include the identification of the refrigerant but also its specific composition as well as its purity and suitability.

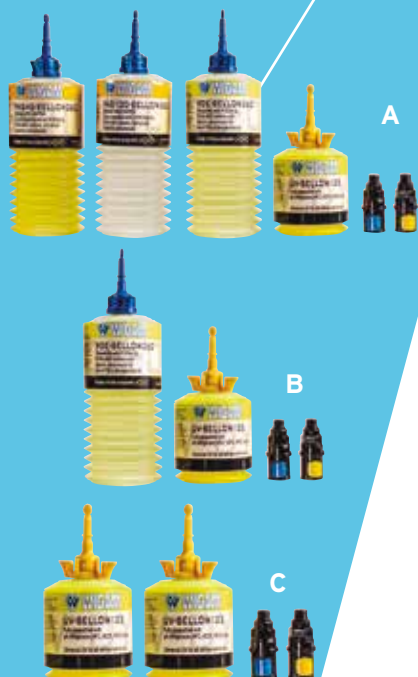
In case the refrigerant is not suitable or contaminated, the charging unit warns the technician and stops the operation. In this case, we suggest to decontaminate the system using **R-ECOPUMP** (see page 43).

**K-ANALYZER-VARIANT** must only be completed with a quick coupler for R1234yf or R134a.



REFRIGERANT ANALYZER KIT

Code	Model	Description
09017024	K-ANALYZER-VARIANT	Refrigerant analyzer kit R1234yf-R134a OPTIMA/OPTIMA+
05108099001	W-AV1234-B4	Quick coupler R1234yf



## AIRTIGHT BELLOWS KIT K-HERMETIC

**K-HERMETIC** is the transformation kit that allows the use of **OILS** and **UV** in hermetic bellows instead of the standard refillable plastic bottles supplied on the A/C units.

The hermetic bellow cartridges are pre-charged in the factory with the best **OILS** and **UV**. The built-in check valve and the intrinsic air-tightness allow the cartridges to be partially used, disconnected for use with a different oil and then reconnected, preventing contaminations caused by the inlet of humid air.

**K-HERMETIC** is available in 3 different configurations, according to the types of **OIL** supplied in the kits; the **OILS** are then available as spare parts.

Code	Model	Description	With
A 14028031	K-HERMETIC	UV+POE+PAG46+PAG100+connections	OPTIMA/OPTIMA+
B 14028032	K-HERMETIC/POE	UV+POE+connections	OPTIMA/OPTIMA+
C 14028033	K-HERMETIC/R744	UV+PAG-R744+connections	PICCOLA-R744

## SPARE PARTS FOR R/R/V/C UNITS

### FILTER DRIER

	Code	Model	Description
A	14015013	XH412	High capacity filter drier Connections 1/4" SAE M
B	14015008	MG111	Filter drier Connections 1/4" SAE M



### OIL FOR VACUUM PUMPS

PICCOLA-R744 - OPTIMA - X-TREME - X-CROSS - OPTIMA-R744-BUS

	Code	Model	Description
	12002003	K1L	Mineral oil 1l. - Viscosity 46



### OIL FOR VACUUM PUMPS

OPTIMA+

	Code	Model	Description
	12002017	W68	Ester oil 1l. - Viscosity 68



### FLEXIBLE HOSES

	Code	Description
	OPTIMA - X-TREME - X-CROSS	
	06071121001	R134a blue - BP 2500mm connexions 1/4"SAE F
	06071025002	R134a red - AP 2500mm connexions 1/4"SAE F
	06071120001	R1234yf blue - BP 2500mm connexions M12x1.5 M
	06071079002	R1234yf red - AP 2500mm connexions M12x1.5M
	X-TREME - 150-HP	
	06071126001	R134a-R404A-R407C-R452A blue - BP 5000mm connexions 1/4SAE F
	06071102002	R134a-R404A-R407C-R452A red - AP 5000mm connexions 1/4SAE F
	06071128001	R1234yf blue - BP 5000mm connexions M12x1.5 M
	06071116002	R1234yf red - AP 5000mm connexions M12x1.5M



### GASKETS AND VALVE OPENERS FOR FLEXIBLE HOSES

	Code	Model	Description
A	14020014001	G19020	Kit (10pcs) Gaskets for 1/4"SAE, 1/2"-16ACME hoses
A	14020015001	G19030	Kit (10pcs) Gaskets for 3/8"SAE hoses
A	14020109001	OR-ZM/K	Kit (10pcs) Gaskets for M12x1,5
B	14023001001	D19302	Kit (10pcs) Valve openers for hoses

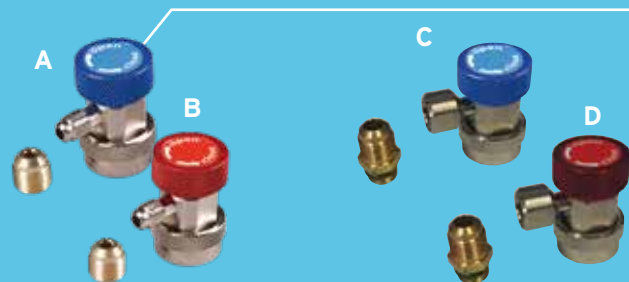


### LOCK-VALVE-CARE

Specific tool that allows easy substitution of gaskets and installation of valve opener inside flexible hoses.

	Code	Model	Description
	08008059	LOCK-VALVE-CARE	Gasket replacement tool





R134a

## QUICK COUPLERS FOR R134a

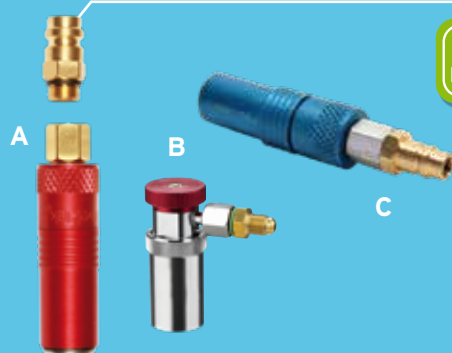
	Code	Model	Description
A	05108091	W-AV134-B4/6	Attachment BP 1/4" SAE M - 3/8" SAE M
B	05108092	W-AV134-R4/6	Attachment AP 1/4" SAE M - 3/8" SAE M
C	05108095	W-AV134-BA/6	Attachment BP M 14 x 1,5 F - 3/8" SAE M
D	05108096	W-AV134-RA/6	Attachment AP M 14 x 1,5 F - 3/8" SAE M



R1234yf

## QUICK COUPLERS FOR R1234yf

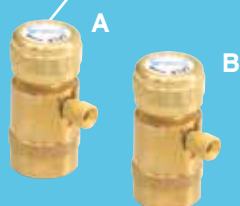
	Code	Model	Description
A	05108101	W-AV1234-BM12	Attachment BP M12 x 1,5 F
B	05108102	W-AV1234-RM12	Attachment AP M12 x 1,5 F



R134a  
R1234yf

## QUICK COUPLERS FOR R134a/R1234yf SPECIAL CONFIGURATION

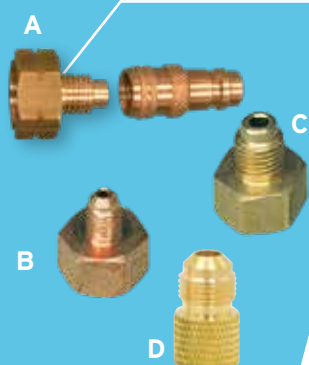
	Code	Model	Description
A	05101031	AVS134-RA	R134a HP in-line coupler for BMW-Volvo-Ford
A	05101037	AVS1234-RA	R1234yf HP in-line coupler for BMW-Volvo-Ford
B	05108097	W-AVS134-RA	R134a HP coupler for BMW-Volvo-Ford
C	05101035	AVS134-BA	R134a LP in-line coupler for Ford-Jaguar
C	05101038	AVS1234-BA	R1234yf LP in-line coupler for Ford-Jaguar



R744

## QUICK COUPLERS FOR R744 (CO<sub>2</sub>)

	Code	Model	Description
A	05108155001	W-AVR744-B1/4	R744 low pressure M1/4" BSP
B	05108156001	W-AVR744-R1/4	R744 high pressure M1/4" BSP



## ADAPTERS FOR BOTTLES

	Code	Model	Description
A	05108098001	821-818/AVK	Adapter for R1234yf 21.8W 1/14" SX - 1/2" -16 ACME x quick coupler SX BP
B	05055009	816/2	Adapter for R134a 21.8W-1/14" DX F x 1/4 SAE M
C	05055011	816/6	Adapter for R134a 21.8W-1/14" DX F x 3/8" SAE M
D	05055100	W404/6	Adapter 1/4" SAE F x 3/8" SAE M



## SAFETY SYSTEMS CLICK-LOCK

Universal system of identification and protection

- Protect your craftsmanship.
- Reduce questionable warranty returns.
- Provide your customer with a permanent system protection.
- Safeguard your equipment from being contaminated by impure refrigerants.
- Kit of 25 sets (high and low).

Code	Model	Description
<b>05049024</b>	CLSA100	For R134a quick connections
<b>05049025</b>	CLSR100	For 1/4" M and 1/2" ACME M connections
<b>05049057</b>	CLSY100	For R1234yf quick connections

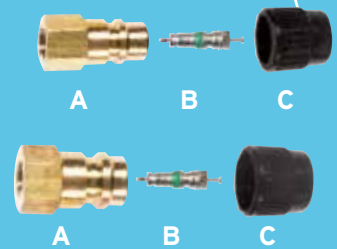


Example of application on vehicle



## CAPS AND INTERNAL CORES

	Code	Model	Description
<b>ABC</b>	<b>05108036001</b>	AVL/1K	Kit 5 couplers low pressure 1/4" SAE for R134a
<b>ABC</b>	<b>05108032001</b>	AVH/1K	Kit 5 couplers high pressure 1/4" SAE for R134a
<b>B</b>	<b>14023003</b>	M1/4"-R22/B	Internal core for R22
<b>B</b>	<b>05108040001</b>	M1/4"-R22/BK	Internal core for R22 (kit 10 pcs)
<b>B</b>	<b>14023002</b>	M1/4"-R134A/V-R	Internal core for R134a
<b>B</b>	<b>05108043001</b>	M1/4"-R134A/V-RK	Internal core for R134a (kit 10 pcs)
<b>C</b>	<b>05108039001</b>	C134-BPK	Kit 10 pcs. caps for LP quick coupler
<b>C</b>	<b>05108038001</b>	C134-APK	Kit 10 pcs. caps for HP quick coupler



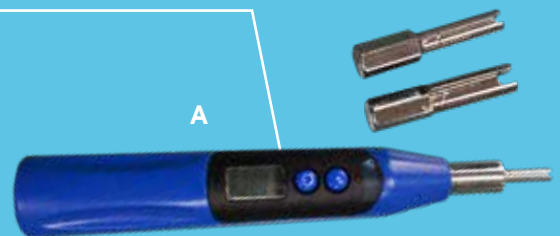
## TORQUE SCREWDRIVER

	Code	Model	Description
<b>A</b>	<b>08008057</b>	CTV-DIGIT	Digital torque screwdriver
<b>B</b>	<b>08008002</b>	W32000	Torque screwdriver
<b>C</b>	<b>08008003</b>	CTV 1	Core screwdriver tool



### Technical features CTV-DIGIT

Torque range	0-2 Nm
Torque resolution	0.01 Nm
Torque accuracy	±1% CW/CCW of reading, 10% to 100 % FS
Power supply	1,5 V, 1 x AA alkaline





A



B



C

R134a  
R1234yf

HYBRID  
READY

## PAG OIL FOR R134a-R1234yf FOR BELT DRIVEN AND ELECTRIC

Double end-capped oil fully compatible with all R134a and R1234yf MAC systems, for belt driven and electric compressors.

In 60ml hermetic bellows for K-Bellow injector or 260ml for quick connections and 250ml dosimeters.

Code	Model	Description
A 12001062	PAG-OIL46-60	Hermetic 60 ml PAG46
A 12001063	PAG-OIL100-60	Hermetic 60 ml PAG100
B 12001072	PAG46-BELLOW260	Hermetic 260 ml PAG46
B 12001073	PAG100-BELLOW260	Hermetic 260 ml PAG100
C 12001060	PAG-OIL46-250YF	Capacity 250 ml PAG46
C 12001061	PAG-OIL100-250YF	Capacity 250 ml PAG100



A



B



C

R134a  
R1234yf

HYBRID  
READY

## POE OIL FOR R134A-R1234YF FOR ELECTRIC POWERED COMPRESSORS

Double end-capped oil fully compatible with A/C systems for R134a and R1234yf with electric compressors for which POE is the specific oil.

In 60ml hermetic bellows for K-Bellow injector or 260ml for quick connections and 250ml dosimeters.

Code	Model	Description
A 12001065	POE-OIL-60	Hermetic 60 ml POE
B 12001071	POE-BELLOW260	Hermetic oil 260 ml POE
C 12001064	POE-OIL-250	Capacity 250 ml POE



A



B

R744

## PAG OIL FOR R744 (CO<sub>2</sub>) FOR ELECTRIC COMPRESSORS

Double end-capped oil compatible with A/C system for R744.

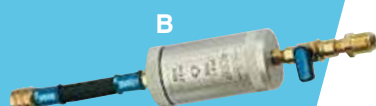
In 125 ml hermetic bellows or 250 ml dosimeters.

Code	Model	Description
A 12001074	744-PAG-BELLOW125	Hermetic 125ml PAG100
B 12001075	744-PAG-250	Capacity 250ml PAG100

## INJECTION KITS



A



B

A. Kit complete with a plastic injector for 60ml bellows cartridges, adapter hose 1/4" SAE with check valve, 1p quick couplers R134a and R1234yf.

B. 1/4" SAE, 3/8", SAE aluminium injector.

Code	Model	Description
A 14028029	K-BELLOW-A/C	Injection kit for R134a-R1234yf
B 14028005	OJ/4	1/4" SAE aluminium injector
B 14028006	OJ/6	3/8" SAE aluminium injector

## UV LAMPS AND DYES

**UV HERMETIC KIT** in plastic case with:

- UV lamp and glasses.
- **Additive in 60 ml hermetic bellows**, plastic injector.
- Adapter hose 1/4" with check valve
- LP quick couplers for R134a and R1234yf.
- Detergent 250 ml.

**A. TORCH-PRO-60-KIT-A/C** kit complete with high performance lamp  
TORCH-PRO with rechargeable battery and charger.

**B. TORCH-MINI-60-KIT-A/C** kit complete with lamp TORCH-MINI.

Code	Model	Description
<b>A 09001111</b>	TORCH-PRO-60-KIT-A/C	PRO - UV kit hermetic 60 ml
<b>B 09001113</b>	TORCH-MINI-60-KIT-A/C	MINI - UV kit hermetic 60 ml

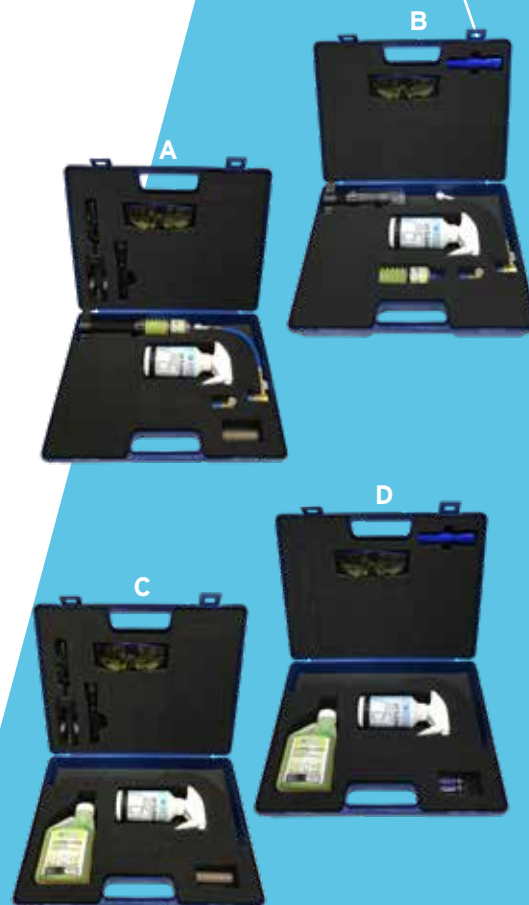
**UV HERMETIC KIT** in plastic case with:

- UV lamp and glasses.
- **Additive 250 ml.**
- Detergent 250ml.

**C. TORCH-PRO-250-KIT-A/C** kit complete with high performance lamp  
TORCH-PRO with rechargeable battery and charger.

**D. Kit TORCH-MINI-250-KIT-A/C** with lamp TORCH-MINI.

Code	Model	Description
<b>C 09001112</b>	TORCH-PRO-250-KIT-A/C	PRO - UV 250 ml kit
<b>D 09001114</b>	TORCH-MINI-250-KIT -A/C	MINI - UV 250ml kit



## UV LAMPS

**TORCH-PRO** High performance UV lamp 365nm with glasses, rechargeable battery and charger.

**TORCH-MINI** UV lamp with glasses.

Code	Model	Description
<b>A 09001108</b>	TORCH-PRO	PRO-UV lamp
<b>B 09001109</b>	TORCH-MINI	UV MINI lamp



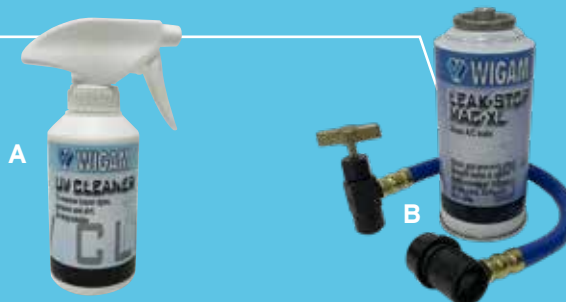
## UV DYES

Code	Model	Description
<b>A 12001058</b>	UV-BELLOW60	Hermetic bellow 60 ml
<b>B 12001070</b>	UV-BELLOW125	Hermetic bellow 125 ml
<b>C 12001057</b>	UV-CAN250	UV dye, capacity 250 ml



## UV CLEANER AND LEAK STOP

Code	Model	Description
<b>A 13005067</b>	UV-CLEAN-250	Dye cleaner, capacity 250 ml
<b>B 12001059</b>	LEAK-STOP-MAC-XL	Leak stop system







R134a  
R1234yf

AZOIDRO  
N<sub>2</sub>H<sub>2</sub>

## LEAK DETECTOR VOYAGER

With its new heated diode sensor, **VOYAGER** combines multiple instruments in a single ally ready to support you in **the different needs and detection strategies**. It detects efficiently all **HFC, CFC, HCFC, HFO** halogenated refrigerants and their mixtures (including A2 such as R32 or R1234yf). It also extends its versatility by detecting **HC hydrocarbons** (such as R290 and R600a) and the **AZOIDRO mixture** (95% Nitrogen-5% Hydrogen) designed specifically for pressurisation for leak detection, **without the need to purchase an additional sensing element**.

The sensing element protection chamber, the **lithium-ion battery** and the new robust ergonomic design with **large colour LCD screen** further enhance this instrument.

- Multiple sensitivity levels (3gr/year).
- Sound alarm and optimized graphics on LCD screen.
- "Mute" button and headphone connection.
- Peak button.
- Rechargeable lithium-ion battery.
- Battery charger and 5 spare tips with filters.
- Complies with EN14624: 2012, SAE J1627.

Code	Model	Description
09001115	VOYAGER	Semi-conductor electronic leak detector
09050111	V-EL1	Sensitive element for VOYAGER

## INFRARED LEAK DETECTOR VOYAGER-IR

**VOYAGER-IR** offers you **maximum reliability and accuracy in leak detection**.

**VOYAGER-IR** detects **all halogenated refrigerants HFC, CFC, HCFC, HFOs** and their mixtures including A2L refrigerants such as R32 or R1234yf.

- 3 Sensitivity Levels (4gr/yr).
- Audible alarm and optimized graphics on large LCD screen.
- High quality sturdy probe.
- Peak button.
- Rechargeable lithium-ion battery.
- Battery charger and 5 spare tips with filters.
- Complies with EN14624:2012, SAE J1627, SAE J2791, SAE J2913.

Code	Model	Description
09001116	VOYAGER-IR	Infrared leak detector

## CO<sub>2</sub> INFRARED LEAK DETECTOR VOYAGER-R744

**VOYAGER- R744** is equipped with an infrared sensor specifically for **R744 (CO<sub>2</sub>)** that offers superior accuracy, insensitivity to false alarms and extended service life.

- 3 sensitivity levels (L/M/H).
- Audible alarm and optimised graphics on large LCD screen.
- "Mute" button and connection for headphones.
- Peak button.
- Rechargeable lithium-ion battery.
- Battery charger and 5 spare tips with filters.

Code	Model	Description
09001119	VOYAGER-R744	Infrared leak detector



## LEAK DETECTION KITS WITH AZOIDRO

**TOTAL TEST** allows to detect and locate the leakages of the A/C system in compliance with Regulation (EC) No. 1516/2007 and Directive 2006/40/EC.

The heavy duty professional nitrogen regulator AZ200/50 with dual integrated connection for cartridges and cylinders (no external adapter required) and "High Performance" safety valve and class 1 control pressure gauge allows to pressurize the system to the required value with the AZOIDRO mixture, to be able to check it with the specific leak detector. Pressurize at 5 bar.

### TOTAL-TEST-A/C

The **TOTAL TEST A/C** kit leak detection kit contains in a sturdy plastic case:

- AZ200/50 nitrogen regulator with dual connection.
- VOYAGER electronic leak detector.
- Control pressure gauge Ø80, class 1 with positioning index and adjustment screw.
- 1/4 "SAE HD flexible hose, 1500 mm + 200 mm.
- AZOIDRO cartridge 1 lt - 110 bar, valid for 9-10 tests.
- Low pressure quick couplers for R134a and R1234yf.

Code	Model	Description
13005072001	TOTAL-TEST-A/C	Country connection IT W2.17 x 1/14" M UN11144-5 M10x1
13005072002	TOTAL-TEST-A/C-D	Country connection F-B-P-E Ø21.7 x 1.814F NF E 29-650/C M10x1
13005072003	TOTAL-TEST-A/C-C	Country connection D W24.32 x 1/14" F DIN477 nr10 M10x1
13005072004	TOTAL-TEST-A/C-E	Country connection GB G5/8" M BS341 nr3



### TOTAL-PGR-PLUS-A/C

The **TOTAL-PGR-PLUS-A/C** kit contains in a sturdy plastic case:

- PGR-PLUS pressure regulator with integrated test gauge and single connection for 1-litre cartridges.
- VOYAGER electronic leak detector.
- 1/4 "SAE HD flexible hose, 1500 mm + 200 mm.
- AZOIDRO cartridge 1 lt - 110 bar, valid for 7-8 test (test at 5bar).
- Low pressure quick couplers for R134a and R1234yf.

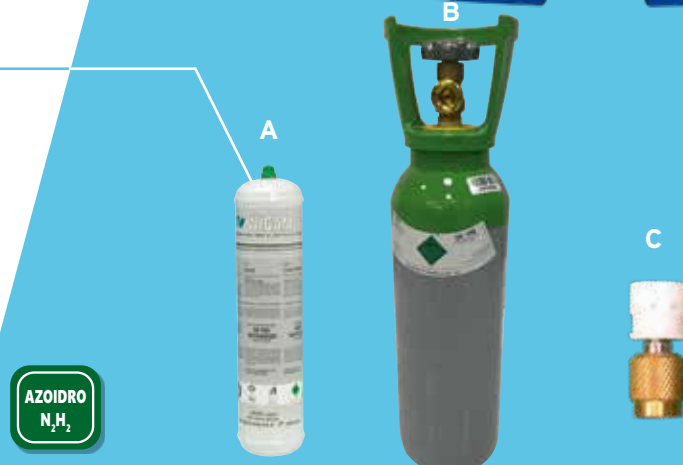
Code	Model	Description
13005075002	TOTAL-PGR-PLUS-A/C	Leak detection kit



## AZOIDRO CARTRIDGES AND CYLINDERS

Cartridges and cylinders containing AZOIDRO (mixture composed of 95% nitrogen and 5% hydrogen) which allow the pressurization of the system and the verification of the leak points using the VOYAGER electronic leak detector.

Code	Model	Description
A 11001112	AZOIDRO	Cartridge 1 l
B 11003020	AZOIDRO/5	Bottle 5 l
C 09050099	RL-134/H2N2	Reference leak for R134/N2-H2



## LEAK DETECTION KIT WITH NITROGEN



New dial with N<sub>2</sub>-H<sub>2</sub>



The heavy duty professional nitrogen regulator **AZ200/50 with dual integrated connection** for cartridges and cylinders (no external adapter required) and "High Performance" safety valve allows to pressurize the system to the value necessary to perform the check.

The **K-AZ200-50/BN2-A/C** kit contains in a sturdy plastic case:

- AZ200/50 pressure regulator with dual connection.
- Control pressure gauge Ø80, class 1 with positioning index and adjustment screw.
- 1/4 "SAE flexible hose, 900 mm + 200 mm.
- Nitrogen cartridge 1 lt - 110 bar.
- Low pressure quick couplers for R134a and R1234yf.

Code	Model	Description
13005017004	K-AZ200-50/BN2-W-AV	Country connection IT W21.7 x 1/14" M UN11144-5 M10x1
13005017010	K-AZ200-50/BN2-W-AV-D	Country connection F-B-P-E Ø21.7 x 1.814F NF E 29-650/C M10x1
13005017013	K-AZ200-50/BN2-W-AV-C	Country connection D W24.32 x 1/14" F DIN477 nr10 M10x1
13005017012	K-AZ200-50/BN2-W-AV-E	Country connection GB G5/8" M BS341 nr3



New dial with N<sub>2</sub>-H<sub>2</sub>

## UNIVERSAL LEAK DETECTION KIT

Thanks to its high maximum operating pressure (60 bar), the kit can be used to pressurize A/C systems with both nitrogen and AZOIDRO, only with cylinders.

The pressurization kit **K-WN2-60-A/C** contains in a sturdy plastic case:

- WN2-60 nitrogen regulator with single connection for cylinders
- Control pressure gauge Ø80, class 1 with positioning index and adjustment screw.
- 1/4 "SAE flexible hose, 1800 mm + 200 mm.
- Low pressure quick couplers for R134a and R1234yf.

Code	Model	Description
13005066010	K-WN2-60-A/C	Country connection IT W21.7 x 1/14" M UN11144-5 M10x1
13005066011	K-WN2-60-A/C-D	Country connection F-B-P-E Ø21.7 x 1.814F NF E 29-650/C M10x1
13005066012	K-WN2-60-A/C-C	Country connection D W24.32 x 1/14" F DIN477 nr10 M10x1
13005066013	K-WN2-60-A/C-E	Country connection GB G5/8" M BS341 nr3



## NITROGEN CYLINDERS AND GAS CONTROL

1 liter cartridge and 5 liters high pressure compressed nitrogen cylinder.  
GAS CONTROL spray leak detector.

Code	Model	Description
A 11001060	BN2/1-TPED	Cartridge 950 cc - 110 bar
B 11003011	BAZ50/1	Bottle 5 l - 200 bar
C 09001080	GAS CONTROL	Spray leak detector 400 ml



## MULTI-TEST-A/C TROLLEY FOR CONTROL AND LEAK DETECTION

The WIGAM **MULTI-TEST-A/C** trolley offers a complete and flexible solution for the detection of leaks in the air-conditioning A/C circuits, as it is suitable to pressurize with Azoidro mixture (N<sub>2</sub>+H<sub>2</sub>) or Nitrogen (N<sub>2</sub>) any A/C system that uses refrigerants such as R134a, R1234yf or R744 (CO<sub>2</sub>).

Cylinders with a capacity of up to 20 litres can be accommodated and secured on the trolley. The cylinder pressure is then reduced by means of a specific pressure regulator, which is not included with the trolley, but that can be selected as an accessory according to your specific country and the maximum output pressure.

Once the compressed gas has been suitably reduced, it will feed the test manifold that is integrated into the trolley. The hoses and quick couplers allow the connection to A/C systems working with R134a, R1234yf or R744 (CO<sub>2</sub>).

The test manifold holds the test pressure gauges for R134a/R1234yf and R744 (CO<sub>2</sub>), which are able to identify the decrease of pressure in the A/C system under examination.

A leak detector (see VOYAGER) is then required to analyse Azoidro mixture (N<sub>2</sub>+H<sub>2</sub>) leaks promptly.

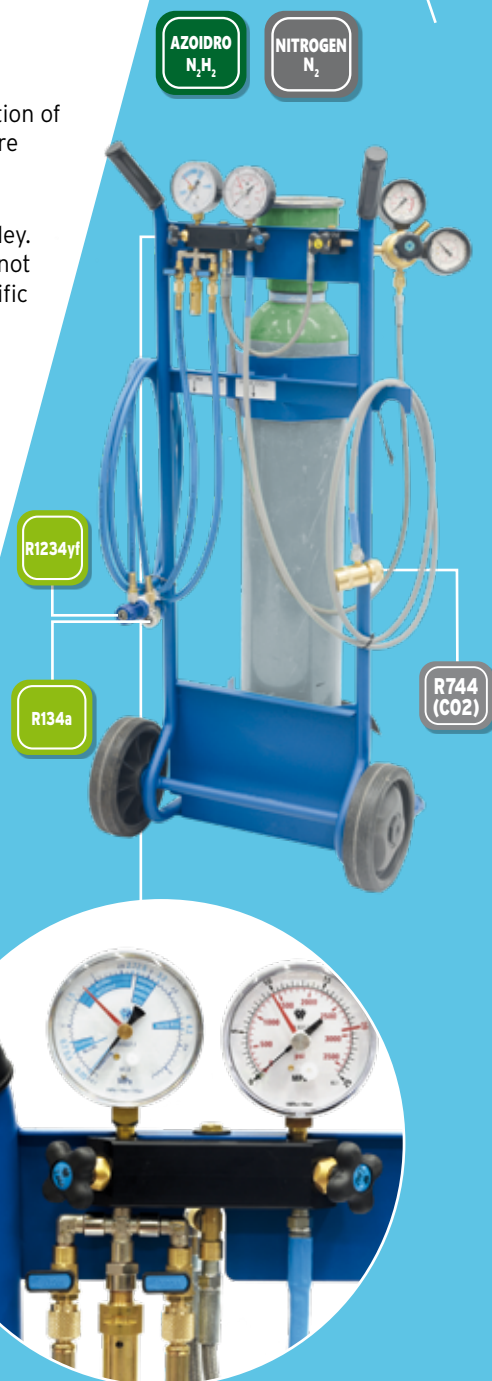
The wide range of pressures with which **MULTI-TEST-A/C** can operate offers the possibility of testing all systems (including R744 systems) also with nitrogen at the most important operating pressures.

The side for pressurisation of R134a and R1234yf systems is suitably protected by a safety valve, in case the pressure regulator is mistakenly set higher than the maximum suitable pressure.

### MAIN FUNCTIONS

- Suitable for A/C systems: R134a, R1234yf, R744.
- Can carry bottles up to 20 L.
- Suitable for test with Azoidro (N<sub>2</sub>+H<sub>2</sub>) and Nitrogen (N<sub>2</sub>)
- Maximum pressure: 48 bar for R134a - R1234yf; 200 bar for R744 (CO<sub>2</sub>).
- Safety valve
- Valve for the controlled release of the test pressure
- 50 bar test manifold for R134a - R1234yf, 80 mm Class 1.
- 250 bar test manifold for R744(CO<sub>2</sub>), 80 mm Class 1.
- Service hoses: R134a 2,5 m; R1234yf 2,5 m; R744 2,5 m.
- Quick couplers for R134a-R1234yf-R744 included
- Safety belts to secure the bottle
- Dimensions of the trolley: cm 114x50x45. Weight: 14,7 kg

Code	Model	Description
13005078001	MULTI-TEST A/C	Trolley for control and leak detection



## VOYAGER

Heated pentode leak detector for AZOIDRO mixture (95% Nitrogen-5% Hydrogen).

[All information on page 31.](#)

Code	Model	Description
09001115	VOYAGER	Semi-conductor leak detector
09050111	V-EL1	Sensitive element for VOYAGER



## MULTI-TEST ACCESSORIES

### WN2-60

#### NITROGEN/AZOIDRO REGULATOR 0-60 BAR

Code	Model	Country	Connections
10002035	WN2-60	IT	W 21.7 x 1/14" M
10002037	WN2-60/D	F-B-P-E	Ø21.7 x 1.814F
10002038	WN2-60/C	D	W 24.32 x 1/14" F
10002036	WN2-60/E	GB	G 5/8" M



#### Technical features

Regulator inlet pressure 20 MPa (200 bar)  
Max. output pressure 6,0 MPa (60 bar)  
Connections 1/4" SAE M



### WN2-100

#### NITROGEN/AZOIDRO REGULATOR 0-100 BAR

Code	Model	Country	Connections
10002045	WN2-100	IT	W 21.7 x 1/14" M
10002047	WN2-100/D	F-B-P-E	Ø21.7 x 1.814F
10002048	WN2-100/C	D	W 24.32 x 1/14" F
10002046	WN2-100/E	GB	G 5/8" M



#### Technical features

Regulator inlet pressure 20 MPa (200 bar)  
Max. output pressure 10 MPa (100 bar)  
Connections 1/4" SAE M



### WN2-200

#### NITROGEN/AZOIDRO REGULATOR 0-200 BAR

Code	Model	Country	Connections
10002039	WN2-200	IT	W 21.7 x 1/14" M
10002041	WN2-200/D	F-B-P-E	Ø21.7 x 1.814F
10002042	WN200/C	D	W 24.32 x 1/14" F
10002040	WN2-200/E	GB	G 5/8" M



#### Technical features

Regulator inlet pressure 30 MPa (300 bar)  
Max. output pressure 20 MPa (200 bar)  
Connections 1/4" SAE M



## AZOIDRO, NITROGEN BOTTLES AND GAS CONTROL

	Code	Model	Description
A	11003020	AZOIDRO5	Bottle 5 l AZOIDRO
B	11003011	BAZ50/1	Bottle 5 l Nitrogen
C	09001080	GAS CONTROL	Spray leak detector 400 ml

## FF1 CLIMA-FLUSH



### PNEUMATIC FLUSHING STATION FOR A/C SYSTEMS

FF1 CLIMA-FLUSH-A/C is the new pneumatic **FLUSHING** and **FLUXING** unit for A/C systems, designed and produced in Italy by WIGAM. FF1 CLIMA-FLUSH-A/C is equipped with a pneumatic ATEX pump and can operate with **FF1 (FLAMMABLE FLUSHING FLUID)** and with **SUPER-FLUSH**.

The **EFFICIENCY** given by the circulation of the fluid in the system is enhanced by the **PULSING** action, while the **DRY** mode allows to perform the final flushing of the circuit.

The station allows a **CLEAN** work in a **SIMPLE** manner by switching from flushing to fluxing via a single diverter valve.

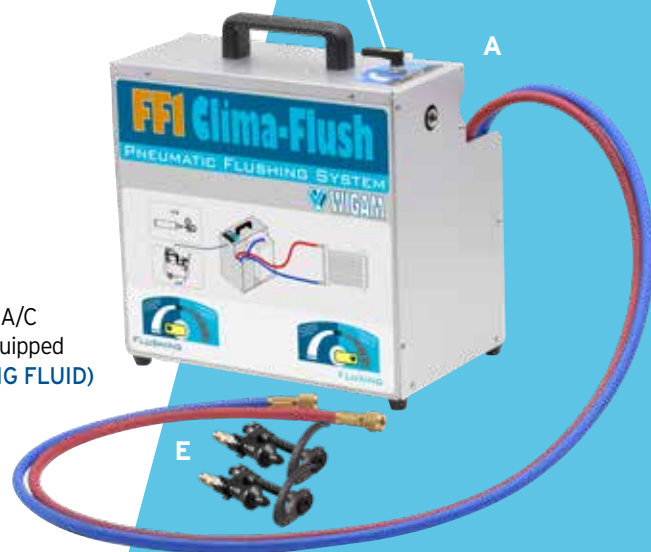
The pneumatic unit can be supplied in a **FLEXIBLE** way, either via the compressed air line or via a nitrogen kit.

The flushing fluid can be introduced into the removable tank or sucked directly from the fluid container, thanks to the self-priming pump.

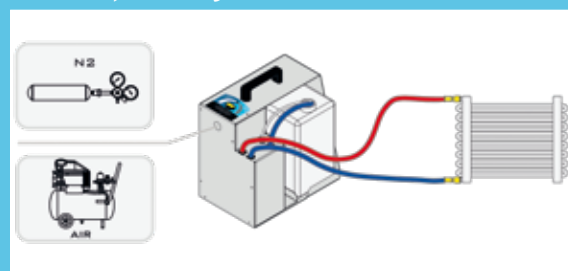
### MAIN FEATURES

- Can also be used with **flammable flushing fluids (Atex-marked pump)**.
- Pulsating flow rate which, combined with the degreasing/detergent action of the flushing fluid, offers **SUPERIOR** flushing **EFFICIENCY**.
- Easy to use thanks to a single diverter valve: flushing or fluxing can be selected with a single action.
- Built-in extractable tank (5 l).
- **Easy-to-service filter included.**
- Possibility to suck the fluid directly from the container.
- The fluid is not overheated by the pump, thus maintains its characteristics.
- Can be used without power supply.
- Can be used either with a nitrogen kit or compressed air.
- Flexible hoses of 1500 mm.
- Suitable for fixed and mobile A/C systems.
- **Compact, light and easily transportable.**

Code	Model	Description
<b>A 13005077002</b>	FF1-CLIMA-FLUSH-A/C	A/C Pneumatic station
<b>B 13005006</b>	FF1	Flushing fluid (1 l)
<b>C 13005048</b>	SUPER-FLUSH/20	Flushing fluid (20 kg)
<b>D 13005030</b>	SUPER-FLUSH/6	Flushing fluid (6 kg)
<b>E 05108087</b>	FI-A/C	Spare cones and clamps kit



### Example diagram:



### Technical features

Rate	7 l/min
Max. pressure	8 bar (0.8 MPa)
Technology	Pneumatic station with ATEX pump
Suggested flushing fluids	FF1 and SUPER-FLUSH
Hoses	2 x 1,5 m
	1/4 G F
Pneumatic connection	Adapters included: - Quick coupler Italy (for compressed air) - Quick coupler Spain (for compressed air) - 1/4 SAE M (for Nitrogen kit)
A/C connections kit included	Universal cones
Dimensions	310 x 295 x 300 mm
Weight	3,5 kg



## CLIMA-FLUSH HP

### PNEUMATIC FLUSHING STATION FOR LARGE-VOLUME A/C SYSTEMS

CLIMA-FLUSH-HP is a pneumatic flushing station, ideal for high-volume refrigeration circuits, thanks to its 30 l built-in tank and to the high performance pump.

Using only the pneumatic propulsion provided by the compressed air line, it is possible to manage the flushing and subsequent fluxing easily (also manageable via the nitrogen ready port).

The **EFFICIENCY** given by the circulation of the fluid in the system is enhanced by the **PULSING** action.

CLIMA-FLUSH-HP is equipped with a pneumatic **ATEX** pump and can operate with **FF1 FLAMMABLE FLUSHING FLUID** and with **SUPER-FLUSH**.

By means of the pump itself, it is possible to conveniently manage both the charge and discharge of the flushing fluid directly from the respective tank.

### MAIN FEATURES

- Compatible also with flammable flushing fluids (such as FF1).
- Easy-to-service, inspectable mechanical filter.
- The flushing fluid can be sucked directly from the fluid container.
- The fluid is not overheated by the pump.
- Two 5 m flexible hoses with 1/2 G F connection.
- Compact and handy frame.



### Technical features

Capacity	5 l/min
Pressure max.	8 bar (0,8 MPa)
Integrated tank	30 l
Power supply	Pneumatic

Code	Model	Description
<b>A 13005079</b>	CLIMA-FLUSH-HP	Pneumatic flushing station for large-volume A/C system
<b>B 13005006</b>	FF1	Flushing fluid (1 l)
<b>C 13005048</b>	SUPER-FLUSH/20	Flushing fluid (20 kg)
<b>D 13005030</b>	SUPER-FLUSH/6	Flushing fluid (6 kg)

## FLUSHING SET BY PRESSURIZATION

Complete set to flush refrigeration circuits that allows complete removal of impurities and oil, by injecting the flushing fluid under pressure into the system in both directions alternately, using the cylinder and a professional nitrogen pressure regulator set at a pressure between 5-7 bar.

Completely removes metal fragments, impurities and oil.

It can be used in combination with nitrogen kits.

To be used with FF1 or SUPER-FLUSH flushing fluids.

**Sturdy plastic case containing:**

- Fluid injection system (1 L), with pressure gauge, hook and valve for nitrogen connection.
- 5 liter tank to collect the waste fluid.
- Flexible hose to connect the flushing set to the A/C system.
- Flexible hose to connect the A/C system to the waste fluid collection tank.
- Universal cones for connection to the A/C system.

Code	Model	Description
<b>A 13005007006</b>	A/CF-P-A	Flushing set by pressurization
<b>B 13005006</b>	FF1	Flushing fluid (1 l)
<b>C 05108087</b>	F1-A/C	Spare cones and clamps kit



## FLUSHING STATIONS FLUSH1-PLUS AND FLUSH&DRY

**FLUSH&DRY** and **FLUSH1-PLUS** flushing stations are equipped with an electric pump, especially designed to perform flushings with mechanical seal and PTFE gaskets.

To maximise the flushing efficiency, the stations offer superior flow rate and hydraulic head performances.

They allow to flush any refrigeration circuit, even of large dimensions (built-in 10 litre container with connection for additional tank).

**FLUSH&DRY** has an external nitrogen bottle connection and allows an easy fluxing of the system thanks to the built-in nitrogen regulator and to the 950cc nitrogen BN2/1-TPED cartridge (supplied with the unit).

Both stations must be used with the non-flammable **SUPER-FLUSH** flushing fluid.



### MAIN FEATURES

- Electric pump, specially designed for flushing with mechanical seal and PTFE gaskets, compatible with all flushing liquids (non flammable).
- 10 L tank, with connection for additional tank.
- Connection for external nitrogen cylinder
- Mechanical filter placed just before entering inside the tank.
- Flexible hoses with universal cones for connection to the hoses of the A/C system (in the FLUSH1 series).

Optional hose and filter dryer ("E") to increase the filtering effect and to be able to reuse the washing fluid a higher number of times.

	Code	Model	Description
<b>A</b>	<b>13005038001</b>	<b>FLUSH1-PLUS-A/C</b>	Flushing station for A/C systems
<b>B</b>	<b>13005038002</b>	<b>FLUSH&amp;DRY-A/C</b>	Flushing and fluxing station for A/C systems
<b>C</b>	<b>13005030</b>	<b>SUPER-FLUSH/6</b>	Flushing fluid (6 Kg)
<b>D</b>	<b>13005048</b>	<b>SUPER-FLUSH/20</b>	Flushing fluid (20 Kg)
<b>E</b>	<b>13006071</b>	<b>KIT-FILT</b>	Kit with flexible hose, 3 "High capacity" filters 3/8"SAE M and gaskets
<b>F</b>	<b>05108087</b>	<b>F1-A/C</b>	Spare cones and clamps kit



### Technical features

Pump flow rate	26 l/m
Integrated tank	10 l
Max pressure	4,5 bar
Motor power	0,6 kW
Power supply	230-240/1/50-60 Hz



## Flush-HP HIGH CAPACITY FLUSHING STATION

**FLUSH-HP** flushing station is ideal for large-capacity circuits thanks to its 30 l built-in tank and to the high performance electric pump. The station must be used with the non-flammable **SUPER-FLUSH** flushing fluid.

### MAIN FEATURES

- Electric pump, especially designed to perform flushings, with mechanical seal and PTFE gaskets, compatible with any non-flammable flushing fluid.
- 30 l tank with connection for additional tank.
- Connection for external nitrogen bottle.
- Easy-to-service, inspectable mechanical filter.
- Two 5 m flexible hoses with 1/2 G F connection.

	Code	Model	Description
<b>A</b>	<b>13005044</b>	FLUSH-HP	High capacity flushing station
<b>B</b>	<b>13005030</b>	SUPER-FLUSH/6	Flushing fluid (6 Kg)
<b>C</b>	<b>13005048</b>	SUPER-FLUSH/20	Flushing fluid (20 Kg)



### Technical features

Pump flow rate	51 l/m
Integrated tank	30 l
Max pressure	8,3 bar
Motor power	1,2 kW
Power supply	230-240/1/50-60 Hz

## A/C UNIT FLUSHING KIT WITH REFRIGERANT

The WIGAM flushing kit model R134-1234FS/4-6/ZM allows to flush the A/C systems using R134a or R1234yf refrigerant. It is suitable to be used with any automatic or manual recovery equipment. The INSPECTOR cylinder integrated in the kit allows check the quality of the refrigerant at the end of the flushing cycle.

### WHY FLUSH WITH REFRIGERANT?

The liquid refrigerant, thanks to its mechanical action, allows to eliminate macro and micro particles, deposits, etc... from the A/C systems. This allows to extend the life of our A/C systems.

### WHY USE THE WIGAM FLUSHING SYSTEM?

Thanks to the large internal volume of the flushing system, the flow of refrigerant reaches a high speed inside the system, maximizing the cleaning action.

The filter adds a dehydrating action to the flushing, making it really complete.

The maintenance kit includes two filter driers and gaskets for hoses.

The presence of the INSPECTOR cylinder (unique in this application) allows checking visually the quality of the refrigerant and the amount of dirt removed.

### KIT INCLUDES:

- 2 flexible hoses of 1500 mm.
- 1 kit of adapters for R1234yf (M12x1.5).
- 1 kit of adapters for R134a (1/4" - 3/8" - M14x1.5).
- 1 hose with check valve to guarantee an unidirectional flow.

Code	Model	Description
<b>13006064</b>	R134-R1234FS/4-6/ZM	Flushing kit with refrigerant





## "SPY" ANALYZER KIT

### WHY?

The information provided nowadays by the existing manifold on the market is based on pressures and temperatures. Important but incomplete information, since the standard sightglass does not allow us or only partially, to guess the passage of the refrigerant, its phase (liquid or vapour) and its quality.

### WHAT INFORMATION DOES SPY PROVIDE?

The ever-increasing importance of indications on the state of refrigerant and oils has led to design the new **SPY** WIGAM manifolds.

The innovative **SPY** diagnostic manifolds, in order to help technicians in daily working, are equipped with a fully transparent central body representing the new frontier of these service equipment.

Here are some of the indications that can be obtained quickly and easily using **SPY**:

- Clearly show if we are working with refrigerant in the liquid or steam phase.
- Clearly show the presence of contaminants in the refrigerant.
- Show the miscibility state of the refrigerant with oil.

Sturdy plastic case containing:

- 1 manifold SPY with gauges R134a-R1234yf, 80mm "Pulse Free", class 1.
- 2 flexible hoses 1500mm 1/4" x 1/4", blue and red.
- 2 flexible hoses 1500mm 1/4" x 1/4", with ball valve, yellow.
- 2 quick couplers R134a (blue + red).
- 2 quick couplers R1234yf (blue + red).
- 1 adapter 1/4"SAE M - 1/2"-16ACME SX F.

Code	Model	Description
04102033	K-SPYPFD4-4-GYSS60	Analyzer kit Spy

## 4-WAYS MANIFOLD KIT

Sturdy plastic case containing:

- A 4-ways manifold.
- 4 hoses 1500mm.
- 3 quick couplers (2 blue and 1 red).
- 1 bottle adapter-connection.

Code	Model	Description
04102031	K-W4PFD4-ZM-K1-GYSS60	Manifold kit for R1234yf
04102032	K-W4PFD4-4-K1-GYSS60	Manifold kit for R134a

On request the kit can be supplied in any combination.

## CO<sub>2</sub> (R744) MANIFOLD KIT

2 ways piston manifold kit with Ø80 oil filled gauges for R744, class 1 with regulation screw and stainless steel case, 3 flexible hoses in plastic case.

- Manifold connections: 3x1/4" SAE.
- Hose connections: 1/4" SAE F x 1/4" SAE F (1 hose).  
1/4" SAE F x 1/4" BSP F (2 hoses).
- Pressures: -1 +100 bar / 0 +160 bar.
- PTFE hoses, stainless steel cover.

Code	Model	Description
04101132	K-PF2ML/D5-4-COS-A/C	Manifold kit



Cleaned refrigerant



Oil and refrigerant with good miscibility



Oil, additives and refrigerant with good miscibility



Bad refrigerant oil miscibility

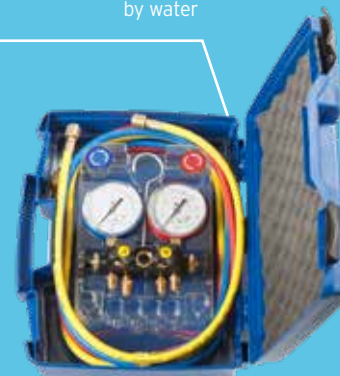


Refrigerant and additive contaminated by water

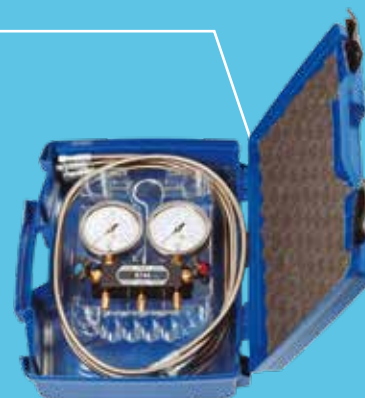


Compressor burned

R134a  
R1234yf



R134a  
R1234yf



R744



R134a  
R1234yf

## REFRIGERANT IDENTIFIERS AND ANALYZERS FOR R134A AND R1234YF

WIGAM offers 2 solutions:

- **MINI-ID** cheap PASS/FAIL solution.
- **LEGEND-ID** professional solution with composition analysis.

The **MINI ID** identifier with a compact and sturdy design performs a quick and accurate analysis of the refrigerant in a simple way.

The **MINI ID** refrigerant identifier will help you verify the presence and quality of R134a or R1234yf refrigerant from automotive A/C systems. If during the analysis process it is found that the purity is less than 95%, the identifier will visually warn " FAIL ", indicating that this refrigerant must not be recovered with the equipment.

The identifier itself provides us with detailed instructions for taking the refrigerant sample.

Available in version for R134a or R1234yf.

The **LEGEND-ID** analyzer performs a real analysis of the composition of the gas R134a R1234yf. Before the analysis operation, the instrument asks the operator for the type of refrigerant to be analyzed.

It provides the result of the purity percentage of the analyzed refrigerant, therefore the percentages of contaminants such as HC, R22 or air.

Available either with or without printer.



### Technical features MINI-ID

Weight	0,8 kg	5 kg
Identified refrigerant	R134a o R1234yf	R134a, R1234yf, R22 or R12 hydrtocarbons
Analysis type	PASS/FAULT (95% purity)	Compositions
Supply	12 VDC	12 VDC
Approvals	UL, CE, RoHS	UL, CE, RoHS

### LEGEND



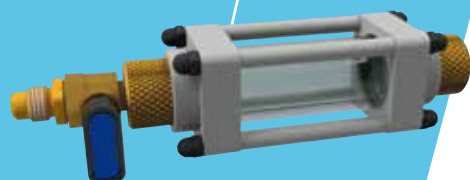
	Code	Model	Description
A	09017012	MINI-ID 134	Identifier for R134a
B	09017021	MINI-ID 1234YF	Identifier for R1234yf
C	09017019	LEGEND ID	Analyzer for R134a and R1234yf
C	09017020	LEGEND ID/P	Analyzer for R134a and R1234yf with printer

## SPY - REFRIGERANT CHECK

**SPY-CYLINDER-CHECK** connects to the **refrigerant cylinder** and allows you to check its status. This preventive analysis protects equipment and A/C systems from polymerization problems.

**SPY-TOTAL-CHECK** is a complete kit **with three functions**:

- Analysis of the refrigerant in the cylinder.
- Analysis during recovery through the connection to the A/C station.
- Analysis of the A/C system through the direct connection to the high and low sides of the system.



Discover SPY



	Code	Model	Description
	13006078	SPY-CYLINDER-CHECK	SPY cylinder check
	13006079	SPY-TOTAL-CHECK	SPY refrigerant check kit

## RECOVERY UNITS EASYREC



Available in single piston (**EASYREC-1**) version, and double piston (**EASYREC-2**) version for higher recovery speed.

Automatic self-evacuation device (PURGE) which allows you to change the type of refrigerant easily.

Low pressure switch that stops the equipment once the refrigerant recovery is complete, which avoids the problems of failure in the unit compressor during operation in the absence of refrigerant.

Signal led (green / cycle performed successfully - red / alarm).

Maximum pressure safety device.

Shut-off valves that prevent the escape of the refrigerant.

"Pulse free" pressure gauges with adjustment screw.

" High Resistance " ceramic cylinder with carbon fiber gasket.

Sight glass and filter included.

Wide graphics with quick functioning instructions.

Can be used with R134a and R1234yf, only by personnel specifically trained for the use of these gases.



## RECOVERY AND RECYCLING UNITS EASYREC-R

**EASYREC-R** includes the distillation system in a particularly compact design.

Distillation device with liquid refrigerant flow check, which allows to separate oil/impurities/dyes up to 900 cc very efficiently.

Available in single piston (**EASYREC-1R**) and double piston (**EASYREC-2R**) versions.

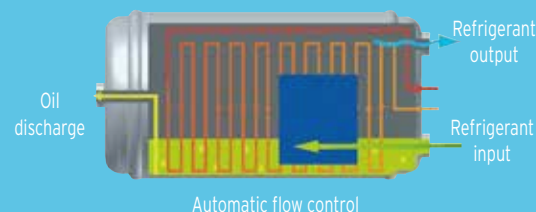
Automatic self-evacuation device (PURGE) that allows you to change the type of refrigerant easily.

Low pressure switch that stops the equipment once the refrigerant recovery is complete, which avoids the problems of failure of the unit compressor during operation in the absence of refrigerant.



### EASYREC-R Integrated distillation system

High-efficiency heat exchanger



### EASYREC 1-1R

Recovery rate	R12-R134a -R1234yf	R404A-R410A- R507-R32
Vapour	14 kg/h	16 kg/h
Liquid (Recovery)	96 kg/h	132 kg/h
Liquid (Recycling) <b>EASYREC-R</b>	16 kg/h	18 kg/h
Push-pull	276 kg/h	378 kg/h

### EASYREC 2-2R

Recovery rate	R12-R134a- R1234yf	R404A-R410A- R507-R32
Vapour	28 kg/h	32 kg/h
Liquid (Recovery)	168 kg/h	198 kg/h
Liquid (Recycling) <b>EASYREC-R</b>	32 kg/h	36 kg/h
Push-pull	450 kg/h	570 kg/h



### Technical features

Refrigerants	R134a, R1234yf, CFC, HCFC, HFC, HFO
Power supply	220-240V AC 5-60 Hz
Power motor	550W (1-1R), 750W (2-2R)
Maximal current draw	4A (1-1R), 5A (2-2R)
Compressor	Piston-type and oil less
Automatic safety shut-off	38.5 bar/3850 kPa (558 psi)





## RECOVERY AND RECYCLING UNIT EASYREC-HP



### Recovery speed

Recovery-Recycling	60 kg/h
Push-Pull	660 kg/h

Ideal for recovery and recycling of large quantities of refrigerant.

Integrated distillation system with automatic flow control of the refrigerant which allows the separation of oil / impurities / additives highly effective.

Self-evacuation device (PURGE) that allows easily the passage from one refrigerant to another.

Automatic stop device at the end of the cycle.

Safety pressure switch (red light - alarm).

Shut-off valves that prevent the escape of refrigerant.

Pulse free pressure gauges Ø80 with adjustment screw.

Flexible hoses 1500mm with shut-off valves.

Two filters on the intake (with passage indicators) and one on the delivery.

Can be used with R134a and R1234yf, only by personnel specifically trained for the use of these gases.

Code	Model	Description
13001025	EASYREC-HP	Recovery-recycling system



### Technical features

Refrigerants	CFC, HCFC, HFC and HFO (included R32 and R1234ze)
Power supply	230/1/50
Power motor	1800W
Maximal current draw	8A
Compressor	With oil
Automatic safety shut-off	37 bar
Operating temperature	10 to 50°C

## MANUAL SYSTEM FOR REFRIGERANT TRANSFER R-ECOPUMP



- Ideal for the recovery of polluted refrigerant, after the analyzer warning of the unit for recovery, recycling, vacuum and charge.
- Ideal to make service on recovery, recycling, vacuum and charge units.
- The system allows to recover refrigerant reducing the residual quantity inside the A/C system in an inexpensive and safe way.



### Technical features

Max. operating pressure	12 bar	Vapour flow rate (for R290-R600a)	72 g/min*
Liquid flow rate (for R134a-R1234yf)	800 g/min*	Reachable vacuum	- 0,8 bar
Vapour flow rate (for R134a-R1234yf)	180 g/min*	Max. temperature	40°C
Liquid flow rate (for R290-R600a)	320 g/min*		

\* The calculation of the flow rate has been made considering a mean of 40/45 pumpings per minute.

Code	Model	Description
13001026	R-ECOPUMP	Manual recovery system

## RECOVERY BOTTLES WITH DOUBLE VALVE AND ELECTRONIC SCALE



Refillable bottles without refrigerant with tube, with liquid and vapour valve ideal for recovery operation. 12,5 liters capacity.

Electronic scale up to 100kg.

	Code	Model	Description
A	11001062	W2-WR10K/44	Recovery bottle for R134a
B	11001129	W2-WR9K/48	Recovery bottle for R1234yf
C	09013019	PRATIKA 100-05	Electronic scale

## DIGITAL THERMOMETER WITH PROBE SA 880 SSX

Digital thermometer with 1-meter probe, designed to measure temperature in the A/C outlet vents. Thanks to the 1 meter cable, it is possible to see the temperature from the outside of the vehicle, without the necessity to access inside of the car.



### Technical features

Measuring range	-50°C to +300°C
Probe	100 mm stainless steel
Resolution	0,1°C (-19,9°C to 199,9°C )
Measuring units	°C/°F
High or low temperature programmable	Yes

Code	Model	Description
09011031	SA880SSX	Digital thermometer



## DIGITAL INFRARED THERMOMETER TIR-50C

It allows the measurement of temperature without any contact. Emissivity adjustable from 0.10 to 1.00. Large display with backlighting for easy of use in dark environments.



### Technical features

Measuring range	-50°C to 800°C
Distance	Spot Ratio 16:1
Accuracy	±2,5% reading
Repeatability	1% reading or 1°C
Response time	500 msec
Storage temperature	-20°C to +60°C (battery-free)
Batteries	9 Volt x 1

Code	Model	Description
09011060	TIR-50C	Infrared thermometer



## DIGITAL PEN THERMOMETER ST09 / ST10

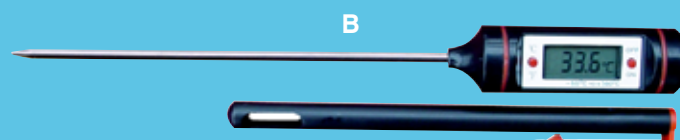
Digital pen thermometer with needle probe for measuring the temperature on the grilles of the vents of the A/C system.



### Technical features

	ST09	ST10
Temperature range	-40 to 200°C	-50 to 300°C
Temperature resolution	0,1°C	0,1°C (<205°C)
Power supply	DC 1.5V LR44	DC 1.5V LR44

Code	Model	Description
A 09011023	ST09	Digital pen thermometer
B 09011050	ST10	Digital pen thermometer





## OZONE (O<sub>3</sub>) GENERATOR LOVAIR-PRO

LOVAIR-PRO has been designed to support the treatment of passenger compartments and environments thanks to the reactivity of ozone (O<sub>3</sub>) in oxidizing the vast majority of organic and inorganic particles, and the consequent odors, even in difficult places to reach.

### LOVAIR-PRO ADVANTAGES:

- Take advantage of a natural principle without the need for chemicals consumables.
- Effective in critical points that would otherwise be unreachable
- Wide spread action thanks to the ability of ozone to penetrate tissues, ...
- Automatic operation.
- Intervention times selectable according to areas and treatment.
- Timer up to 180 min.
- Double power supply connection 220V-50/60Hz and 12DVC.
- More than 10,000 half-hour treatments without using consumables .

### HOW DOES OZONE WORKS?

Ozone is a molecule of three oxygen atoms bound together (O<sub>3</sub>), with negative electric. In nature, ozone is produced by some physical reactions. The most well-known example is of course the ozone layer, where ozone is produced from the sun's UV rays. But ozone is also produced at thunderstorms and waterfalls. The special "fresh and clean spring rain" smell is a result of nature-produced ozone. Ozone derives from the Greek word "ozein" which means "to smell".

After fluorine, ozone is the strongest oxidant found in nature. The ozone operates according to the principle of oxidation. When the static loaded ozone molecule (O<sub>3</sub>) contacts with something "able to oxidize", the charge of the ozone molecule will directly flow over. This is because ozone is very unstable and tends to turn back to its original form (O<sub>2</sub>).

### Usage times\* recommended in cabin treatments

Utility vehicle / Average	15 - 30 min.
Large sedans / SW / SUVs / Minivans / Truck cabins	30 - 45 min.
Camper / Caravan / Minivan	45 - 60 min.
Minibus	60 - 90 min.
Buses / Trains	90 - 180 min.

\* Read the manual carefully before using the equipment.

### Usage times\* recommended in room treatments\*\*

Up to 15 m <sup>2</sup>	15 - 30 min.
Up to 30 m <sup>2</sup>	30 - 60 min.
Up to 50 m <sup>2</sup>	60 - 90 min.
Up to 65 m <sup>2</sup>	90 - 120 min.
Up to 80 m <sup>2</sup>	120 - 180 min.

\* Read the manual carefully before using the equipment.

\*\* Calculations with a room height of 3m.



### Technical features LOVAIR-PRO

Ozone production	4.000 mg/h
Power input	40W
Power supply	220V-50/60Hz and 12DVC
Dimensions	20 x 15 x 15 cm
Weight	2,5 kg

Code	Model	Description
09019008	LOVAIR-PRO	Ozone generator O <sub>3</sub>

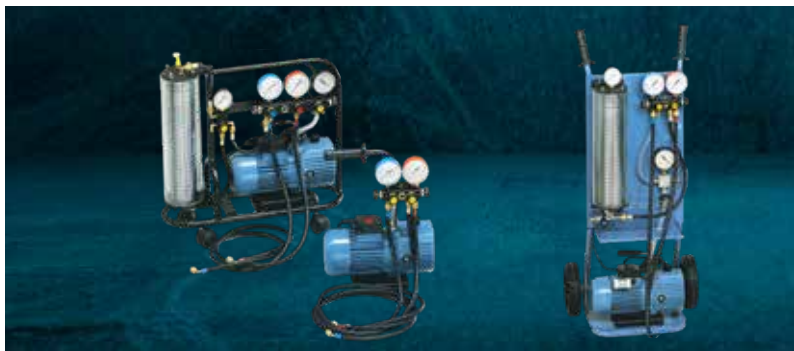
## CLEAN-AIR SANITIZER



- Sanitizer for air conditioning systems.
- Removes bad smells.
- Sanitizes safely and quickly.

Code	Model	Description
13005014	CLEAN-AIR	Sanitizer





## END YEARS '70

Production of units for vacuum and charge of A/C conditioning systems.

Produzione di unità per la carica e il vuoto degli impianti di condizionamento A/C.

## A LONG HYSTORY SINCE 1976

WIGAM has always been a company in step with the times and with a view to being environmentally friendly. Without neglecting the technical part, Wigam is keeping up-to-date regarding the European and American standards and is adopting technical solutions to improve the quality of its units.

La WIGAM è sempre stata un'azienda al passo con i tempi, con lo sguardo "rivolto al green", senza mai tralasciare la parte tecnica, aggiornandosi sulle direttive europee e americane e adottando soluzioni tecniche per migliorare la qualità delle sue attrezzature.



## YEAR 1994

The Montreal Protocol banishes the CFCs (R12) that are responsible for the depletion of the ozone layer.

Il protocollo di Montreal sancisce la messa al bando dei CFC (R12) responsabili della distruzione dell'ozono.

## YEARS 2007-2012

SAE J2788 standard establishes the reduction of refrigerant fluids emissions in the environment during maintenance of vehicles (minimum recovery of 95% of the total). Fulfilment of the Kyoto protocol for the progressive reduction of greenhouse gases (R134a) and for the development of the new low environmental impact refrigerants.

La normativa SAE J2788 stabilisce la riduzione delle emissioni in ambiente dei fluidi refrigeranti durante la manutenzione degli autoveicoli (recupero minimo 95% del totale). Attuazione del protocollo di Kyoto stabilisce le tappe per la riduzione progressiva dei gas ad effetto serra (R134a) e lo sviluppo dei nuovi refrigeranti a basso impatto ambientale.



## YEAR 2018

Directive 2006/40/EC prohibits from 1st January 2017 the registration of vehicles with air conditioning systems with fluorinated greenhouse gases in GWP > 150, resulting in use of R1234yf.

Expansion of the range for agriculture, mobile refrigeration ...

La Direttiva 2006/40/CE vieta dal 1 Gennaio 2017 l'immatricolazione di autovetture con impianti di condizionamento con gas fluorurati ad effetto serra a GWP >150, con conseguente uso di R1234yf.

Ampliamento della gamma per i settori agricolo, refrigerazione mobile...





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## TERMS OF SALE

Prices are per unit, list prices and do not include VAT.

Packaging is invoiced at cost.

The Min. Qty column indicates the minimum orderable quantity.



Symbol indicates the pieces included in the kit.

In this case, price refers to the kit.

Prices are considered Ex-Works and can be changed by us without notice.

The goods are shipped at the consignee's risk, even if sold franco domicile. If there is no precise indication, goods will be shipped with one of our forwarders, without our being responsible.

No complaint will be considered valid and accepted after five days from the receipt of goods.

Any comment on the price invoiced must be done immediately.

Orders are always accepted without commitment regarding delivery times.

Delivery dates on order confirmations are approximate.

Deliveries are subject to the availability of raw material on the market.

Payments are not recognized unless effected to our domicile.

Return of goods are not accepted unless authorized and carriage free.

For any controversy, the place of jurisdiction is Arezzo, seat of our company, whatever are the way and the place agreed for the payment and the delivery.



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