



AirSOLUTIONS

**MADE IN ITALY,
MADE FOR PASSION:**

**[H]EV-OLUTIONS
COOLING SYSTEM SERVICE TECHNOLOGY**



PRECISION



RELIABILITY



INNOVATION

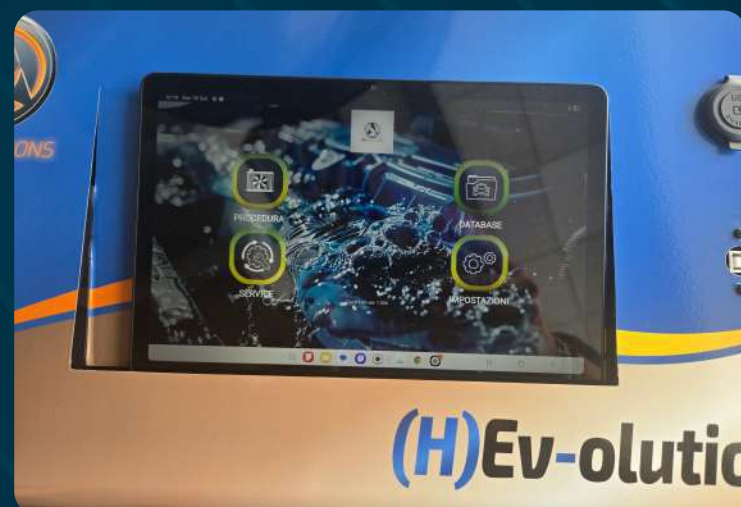
WHY (H)EV-OLUTIONS WAS CREATED

THE COOLING SYSTEM IS NO LONGER JUST ABOUT THE ENGINE.

The evolution towards hybrid and electric vehicles has profoundly transformed vehicle thermal management. In next-generation systems, coolant can be used to control the temperature of the engine, high-voltage battery, inverter, electric motors and power electronics through increasingly complex circuits.

FOR WORKSHOPS, THIS MEANS FACING NEW MAINTENANCE REQUIREMENTS:

- **MORE COMPLEX CIRCUITS:** MULTIPLE COOLING CIRCUITS, ELECTRIC PUMPS, ELECTRONICALLY CONTROLLED VALVES AND DIFFERENT THERMAL MANAGEMENT STRATEGIES.
- **VEHICLE-SPECIFIC PROCEDURES:** DRAINING, FILLING AND BLEEDING CAN NO LONGER BE PERFORMED IN THE SAME WAY ON EVERY VEHICLE. ESPECIALLY ON HEVS AND EVS, SPECIFIC MANUFACTURER PROCEDURES MAY BE REQUIRED.
- **CORRECT TECHNICAL INFORMATION:** THE OPERATOR MUST KNOW THE COOLANT TYPE AND SPECIFICATION, QUANTITY, MAINTENANCE INTERVALS AND THE CORRECT PROCEDURE FOR THE VEHICLE BEING SERVICED.
- **CONTROLLED FILLING AND BLEEDING:** COMPLEX CIRCUITS MAKE IT PARTICULARLY IMPORTANT TO PREVENT TRAPPED AIR AND INCORRECT FILLING BY USING CONTROLLED VACUUM AND FILLING PROCEDURES.
- **A SIMPLE PROCEDURE FOR COMPLEX TECHNOLOGY:** WORKSHOPS NEED A TOOL THAT TURNS THIS INFORMATION INTO A GUIDED, REPEATABLE AND DOCUMENTABLE WORKFLOW, REDUCING THE RISK OF OPERATOR ERROR.



THE MACHINE KNOWS THE VEHICLE. THE OPERATOR KNOWS THE PROCEDURE.

With (H)Ev-olutions, the tablet becomes the operational centre of the service: it guides the technician from vehicle selection through to service completion, providing the information required to work correctly on modern Thermal Management systems.

Integrated technical database

By selecting the make, model and version, the operator can access vehicle-specific data:

- Engine and Engine Code
- Coolant type and specification
- Coolant quantity
- Inspection and replacement intervals
- Original technical procedures
- Specific information for ICE, HEV and EV systems

THE TABLET TURNS DATA INTO A GUIDED PROCEDURE

It does more than display information: the software guides the operator step by step, indicating what to do and monitoring the execution of the various operations performed by the machine.

Selects the vehicle -> identifies the coolant -> verifies the quantity -> guides the procedure -> monitors each phase -> completes the service.

The project is designed so that draining, pressure testing, vacuum testing and filling procedures are managed through dedicated operating sequences and machine controls.

PARTICULARLY IMPORTANT FOR HEVS AND EVS

In electrified vehicles, maintenance may require diagnostic activation of electric pumps and valves, as well as specific service modes. (H)Ev-olutions can provide the operator with the information required to correctly integrate these operations into the service procedure. The database can provide the manufacturer-specified diagnostic procedures required to place hybrid and electric systems in the correct condition for maintenance.

COMPLEX TECHNOLOGY, MADE SIMPLE FOR THE WORKSHOP

Database + Tablet + Guided Procedures enable workshops to service modern Thermal Management systems using a simpler, more controlled and repeatable working method, reducing dependence on the experience of the individual operator.

DA QUESTA ESIGENZA NASCE (H)EV-OLUTIONS. UNA PIATTAFORMA SVILUPPATA PER ACCOMPAGNARE L'OFFICINA NELL'EVOLUZIONE DEL THERMAL MANAGEMENT: DALLA MANUTENZIONE DEI TRADIZIONALI MOTORI ENDOTERMICI AI SISTEMI HYBRID ED ELECTRIC.

ARCHITECTURE DESIGNED FOR CONTROL AND SAFETY

Pressure, temperature and quantity monitored throughout the service process



-1,5 BAR PRESSURE SENSOR RANGE

2 LOAD CELLS

TEMP TEMPERATURE MONITORING

VAC VACUUM CIRCUIT

CIRCUIT PROTECTION FILTER ON COOLANT SUCTION LINE

CIRCUIT PROTECTION VACUUM SAFETY SEPARATOR

CIRCUIT PROTECTION PRESSURE CONTROL DURING FILLING

WHY (H)EV-OLUTIONS

A new service opportunity for the workshop

UNIVERSAL

HEV, EV and ICE on a single platform

GUIDED

Software procedures and vehicle database

EV READY

Support for servicing electrified cooling circuits

PROFESSIONAL

Leak testing, flushing, recovery and refilling

CONTROLLED

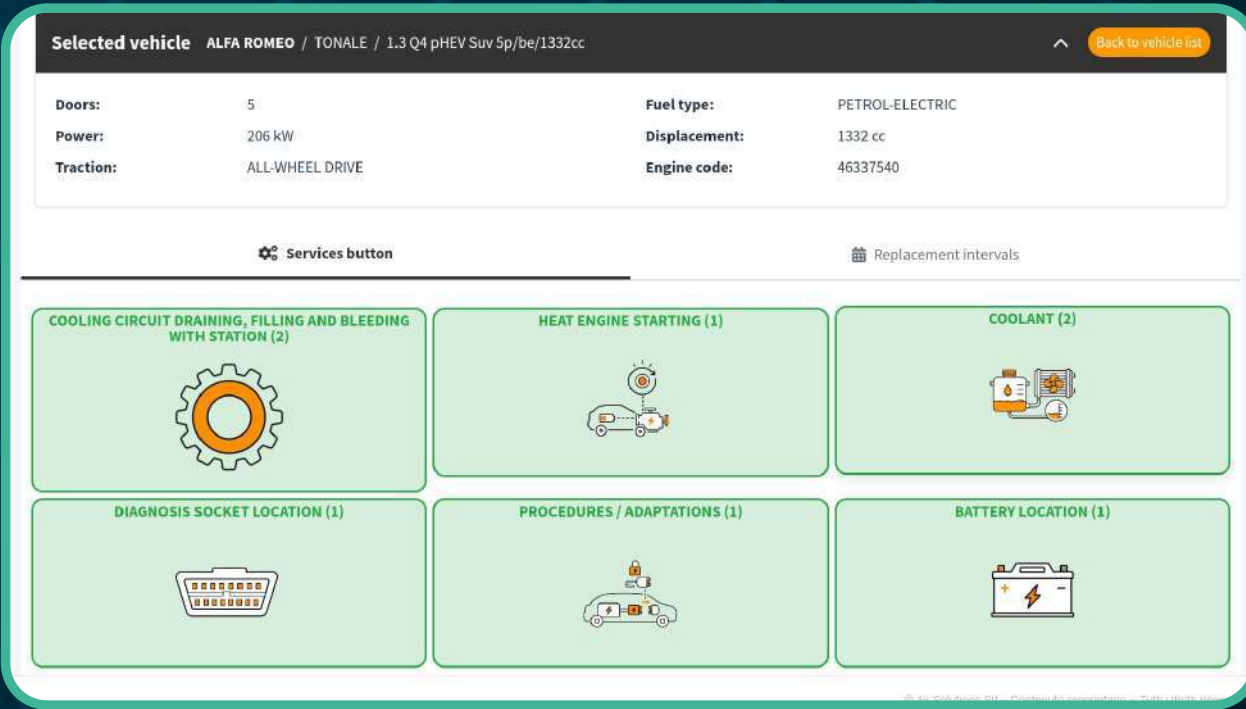
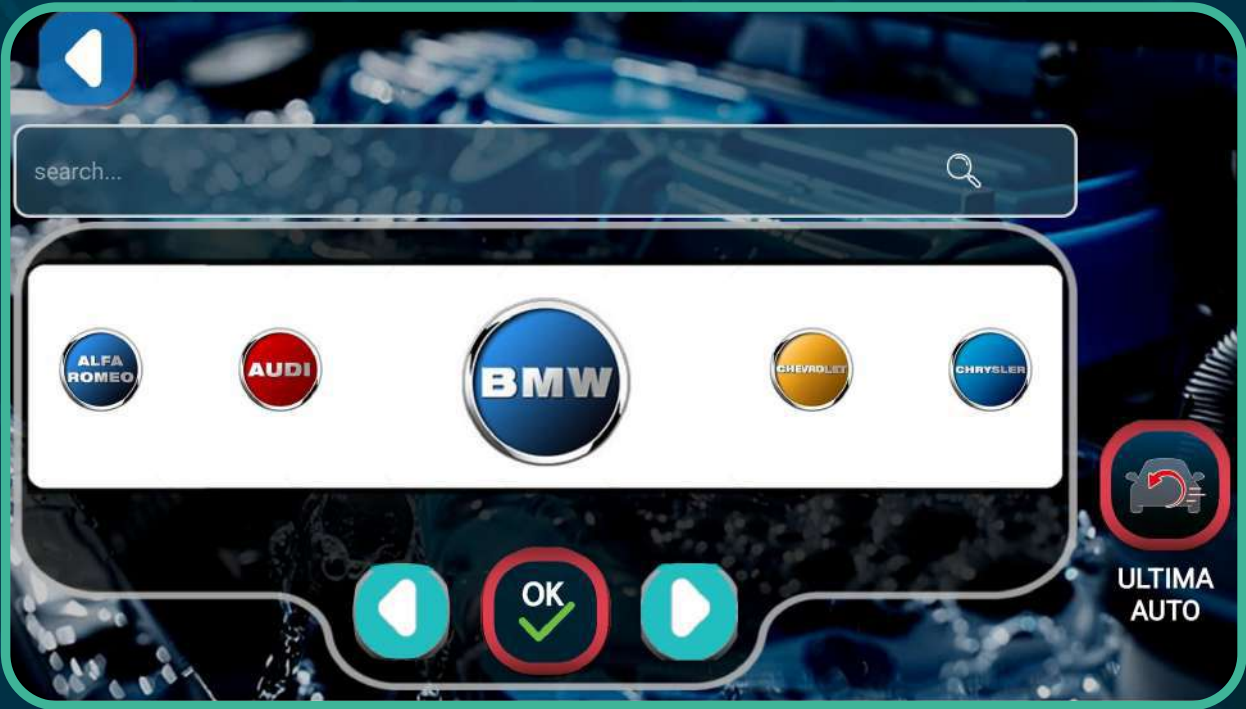
Pressure, vacuum, temperature and quantity

MADE BY AIRSOLUTIONS

Developed for professional workshops

THE DATABASE THAT GUIDES EVERY ACTION

Technical information regarding the specific configuration selected



ORIGINAL SPECIFICATION

QUANTITY

ENGINE CODE

CORRECT PROCEDURE

OEM PROCEDURES AND CONTROLLED PARAMETERS

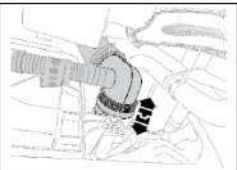
The machine applies the pressures and times specified for that particular vehicle

• FIGURA 1



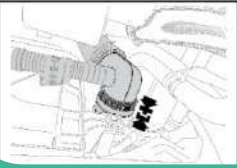
- SOLLEVARE IL VEICOLO SUL PONTE ELEVATORE IN POSIZIONE PERFETTAMENTE ORIZZONTALE.
- SMONTARE IL CARTER DI PROTEZIONE INFERIORE.
- SISTEMARE UN RECIPIENTE PER IL RACCOGLIMENTO DEL FLUIDO.
- SCOLLEGARE LA TUBAZIONE INDICATA.

• FIGURA 2



- SCOLARE IL LIQUIDO REFRIGERANTE.
- COLLEGARE LA TUBAZIONE INDICATA.

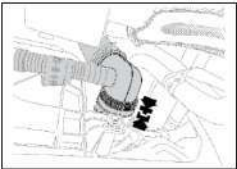
• FIGURA 3



Data and procedures are associated with the selected make, model, version, and engine type.

• CONNECT THE INDICATED HOSE.

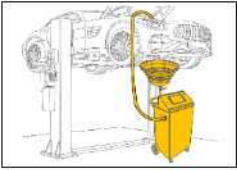
• FIGURE 3



REFILLING

- FILL THE FILLING DEVICE RESERVOIR WITH THE PRESCRIBED QUANTITY OF FLUID.
- FIT THE FILLING DEVICE ONTO THE COOLANT EXPANSION TANK.

• FIGURE 4



- FOLLOW THE INSTRUCTIONS INDICATED BY THE FILLING STATION
- REMOVE THE TOOLS USED
- SCREW ON THE COOLANT EXPANSION TANK CAP.

• FIGURE 5



DETAILED PROCEDURE

Operating sequence and connection points specified by the manufacturer.

OEM PRESSURE & TIMING

Parameters set according to the specifications available for the vehicle.

REPEATABLE RESULTS

Guided operation reduces errors, residual air, and the risk of damage to the circuit.

EV • HEV • ICE

THERMAL MANAGEMENT

The future of coolant maintenance. A machine designed to support workshops from traditional powertrains to electrified systems.



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