



The need to reduce consumption, harmful emissions, and simplify maintenance procedures have always been the objectives of our company that, since its establishment in 1971, has been working towards the solution of these problems. Our studies were centred around some basic concepts of physics and then standardized for series production. Research, experimentation, tests and trials, have permitted us to make a concrete response to these problems, anticipating and improving on the pollution parameters defined in the **Kyoto** protocol.

All this work gave rise to the **ACED - Acceleratore Catalizzatore Elettro Dinamico [Electro-Dynamic Catalyser Accelerator]** which acts on the molecular composition of fuels, producing rapid and efficient combustion. The ACED is produced strictly in line with EC standards, in 5 different models of differing power and characteristics which, depending on how they are installed, serve different functions.

The parts are constructed in compliance with the regulations in force, in 5 models of differing power and features. The units are powered through their own control panel connected to the 230V 50/60 HZ electrical mains supply: the units for industrial use have two safety fuses inside the control panel. It should be remembered that connection to the electrical supply must always be established in compliance with the regulations in force, by authorised and qualified personnel. The active section is constructed with double insulation and powered at low voltage. These are the same size as the existing passage of the plant, which avoids having to certify the plant again. The device is fixed in the required position using simple clamp rings.

The manufacturer declines all responsibility for any cases of: intervention on the machine, installation, or assistance conducted by personnel that are not adequately qualified, authorized, and skilled; the removal of seals or the modification of a part of the equipment; failure to comply with the electrical regulations of the country where the equipment is installed; damage to the equipment or plant resulting from incorrect or inadequate installation or lack of care during maintenance. Such cases also result in the immediate cancellation of the guarantee of five years for mechanical parts and two years for electrical parts as per EU regulations.

1 Maintaining limestone in suspension in cold water.

Used during the cleaning of hydraulic circuits by rinsing with water, it creates a negative magnetic field in the liquid, transforming the limestone into calcium carbonate. This, instead of attaching to the pipe, travels right through the circuit. However, due to the underlying physical principle, when the water is heated all the material that was not previously deposited condenses in hot circuits. For this reason filters are required before heating systems in order to block the material that would cause future incrustations. This filter must be fitted by the installer and scaled on the basis of the system capacity and pressure, avoiding filters with excessively coarse (and therefore ineffective) mesh, or excessively fine mesh resulting in reduced system capacity and frequent clogging of the filter. Suitable for all types of application, from single apartments to entire housing blocks or industries. Reduces the need for repairs and replacement by simply unscrewing a connector and inserting the ACED. The costs of routine maintenance can also be cut by greatly reducing the formation of incrustations.

2 Filtering fluids with magnetizable particles in suspension.

On machine tools, like for example grinders, magnetic separators with rotating disks are utilized and these are subject to wear or are supported by consumption systems, like fabric or filter cartridges. Without making any major changes and with just a few minutes of work, an ACED can be fitted on an off-take, like a simple magnet, while leaving the reservoir to function as usual. The quality of the coolant is improved and waste disposal is reduced, protecting the environment, increasing productivity, and saving on maintenance.



3 Fuel accelerator and catalyst.

Nowadays everybody talks about "common rail" in motors, which offers improved filling of the combustion chamber through the extremely fine injection of fuel. The concept of the present application is to achieve a similar effect in central heating boilers by magnetically exciting the fuel molecules, while avoiding the creation of Galvanic currents. Since this does not involve any form of mechanical modification, there is no need for renewed certification for the compliance of the plants with existing regulations. Improving the combustion of fuel lowers consumption and unburnt fuel fractions, boiler maintenance and cleaning costs, and is all achieved with just a few minutes work and the adjustment of the burners.

In laboratory analyses to test the yield of the devices the following was certified:

With methane GAS Average guaranteed and certified savings of 6% without adjusting combustion.

By way only of example, it is noted that during the certification tests energy savings of up to a maximum of 22.95% were achieved, although this cannot in any way be considered as guaranteed.

With GPL GAS Average guaranteed and certified savings of 4% without adjusting combustion.

By way only of example, it is noted that during the certification tests energy savings of up to a maximum of 13.46% were achieved, although this cannot in any way be considered as guaranteed.

With Diesel Average guaranteed and certified savings of 6% without adjusting combustion.

By way only of example, it is noted that during the certification tests energy savings of up to a maximum of 10.30% were achieved, although this cannot in any way be considered as guaranteed.

Some systems installed at our site are taken as examples. With ROBUR M 35 burners supplied with methane gas we reduced weekly consumption, after adjusting the combustion according to our recommendations, from 150 to 124 m³, and undiluted CO was down from 60 ppm to 52.

Recommendations for Installation

- 1 Check the temperature of the fumes and relative emissions.
- 2 Check the operating pressure of the burners or boilers.
- 3 Install the device, with the active part mounted vertically and with the arrow pointing in the direction of fuel flow.
- 4 Fix everything in place with 2 clamp rings of appropriate size for the passage.

After 7 to 10 days of operation:

- 5 Recheck the temperature of the fumes and relative emissions.
- 6 Recheck the operating pressure of the burners and boilers with the purpose of avoiding excessive heat emissions from the chimneys or exhaust ducts caused by an oversupply to the burners as a result of the installation of the device.
- 7 Reduce the operating pressure or the burner or boiler inlet nozzles, if these do not have automatic or condensation adjustment, in order to adjust fume temperature to the optimum level.