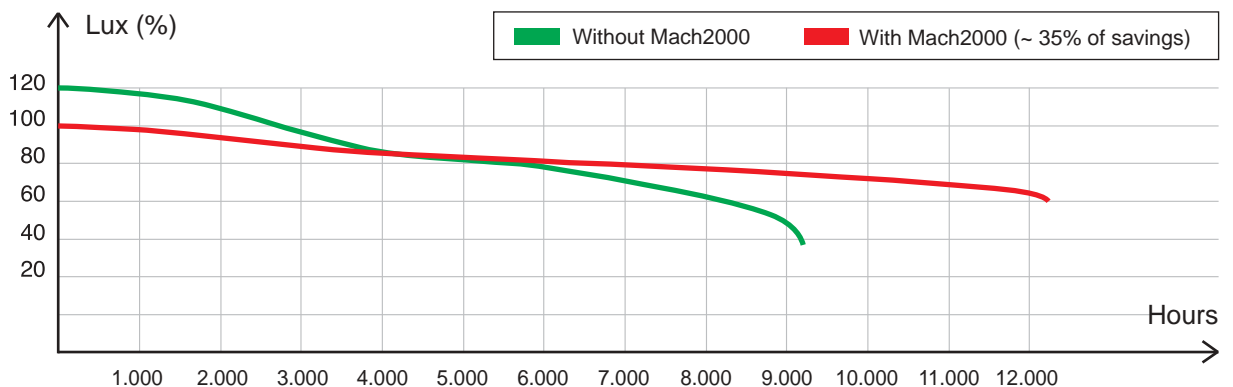


➤ LET'S SHED LIGHT ON SAVINGS *and save on lighting*

The MACH2000 systems produced by Stila Energy can be used with all types of gas discharge lamps, each of which can be powered at different voltage values that correspond to different percentages of energy savings. The table below shows; the minimum voltage levels generally tolerated by the different types of lamps, maximum savings percentage and percentage of increased lifespan of the lamp in respect to the average declared by the manufacturer. It is important to underline that the higher the voltage feed to the lamps from the network without Mach2000, the higher the savings and longer duration of the lamps possible by using Mach2000.

Kind of Lamp	Min Voltage	Max percentage of energy saving	Min percentage of increased lifespan
Traditional Fluorescent	185 V	45%	40%
Low consumption Fluorescent	190 V	40%	20%
High pressure Sodium	170 V	55%	50%
Low pressure Sodium	180 V	45%	50%
Mercury Vapours	195 V	35%	40%
Metallic Halides	190 V	40%	25%
Induction	190 V	40%	30%

Gas discharge lamps naturally lose lumen output over time (even up to 7 - 8% less lumen output after only 500 hours of use). With MACH2000 regulating the voltage feed there is an initial drop in brilliancy compared to that obtained at nominal voltage. However, the performance of the lamps improves over time. The fact that the lamps last longer and perform better just when they normally would be at their worst makes up for the lower lumen output at the beginning (for example in the case of fluorescent lamps performance decreases after 4,500 hours). The graph shows the lumen output in a real application with fluorescent lamps in two different situations, without and with Mach2000 (savings of around 35%). The graph shows that after the first 4,000 ~ 4,500 hours of use the lumen output of the lamps run with the Mach2000 improves with respect to those that are run without the Mach2000. The performance is so consistent that after over 9.000 hours of operation the brilliancy values are still acceptable, above and beyond any illumination design forecast.



Data from real applications with fluorescent lamps (58 W with low losses ballast).
Declared Lifespan of lamps 8,000 hours. Nominal Voltage = 230 Volt
N.B. The initial lumen output value includes the 20% of greater lighting called for in the planning phase in illumination design calculations.





➤ SAVING ON ENERGY CONSUMPTION AND ON RELAMPING AND MAINTENANCE CALLS.

The systems in the MACH family produced by Stila Energy S.p.A. are appliances for automating and generating energy savings on lighting plants.

Essentially, their function is to regulate and stabilize the voltage feed to the lamps, reducing the power absorbed and the relative energy consumption. Thanks to the use of the MACH systems it is possible to obtain energy savings that vary from minimum values of 25% to values that can exceed 50%.

Besides the reduction of energy consumption, the regulation of the voltage feed to the lamps allows them to perform better. Without this regulation the lamps are subject to irregular voltage feeds that cause stress and affect their durability. Therefore lamps that perform better also last longer.

The increased duration and improved performance of the lamps over time dramatically reduce the number of maintenance calls required. This translates into lower overhead costs in running a lighting plant. Running a lighting plant with a system from the Mach family can be customized based on each client's choices. By programming different settings for each time band or relying on the Mach systems to regulate the ambient brilliancy based on data received from a brilliancy sensor placed in the field.

The reduction of energy consumption, longer durability of the lamps and the regulation of the lumen output all have beneficial consequences. These consequences are direct and immediate not only on costs but also on the environment. The reduction of carbon dioxide emissions and lighting pollution are just two examples.

