

Technological research and the global crisis

The current crisis

In this time of severe economic crisis affecting many countries, often the result of unprincipled cultural, economic and political models, the traditional business world seems paralysed and impotent. Anyone who lived through the postwar period and the birth of Italian industry realizes that it was easier to create prosperity than to maintain it; once people asked themselves fewer questions, were more committed and made those sacrifices that the situation demanded.

Even if it is not easy to find a solution to the crisis, we cannot just stand idly by.

Technological research and development: Cattani S.p.a.'s evolutionary path

Cattani S.p.a. has sought and implemented its own development path based on scientific and technological research convinced that these represent the main driver to fuel economic growth, and has favoured techniques that save raw materials, are energy efficient and reduce environmental pollution.

New technologies and environmental sustainability applied to dental aspiration

The dental industry can only benefit from the use of those new technologies that allow energy savings and focus on air quality.

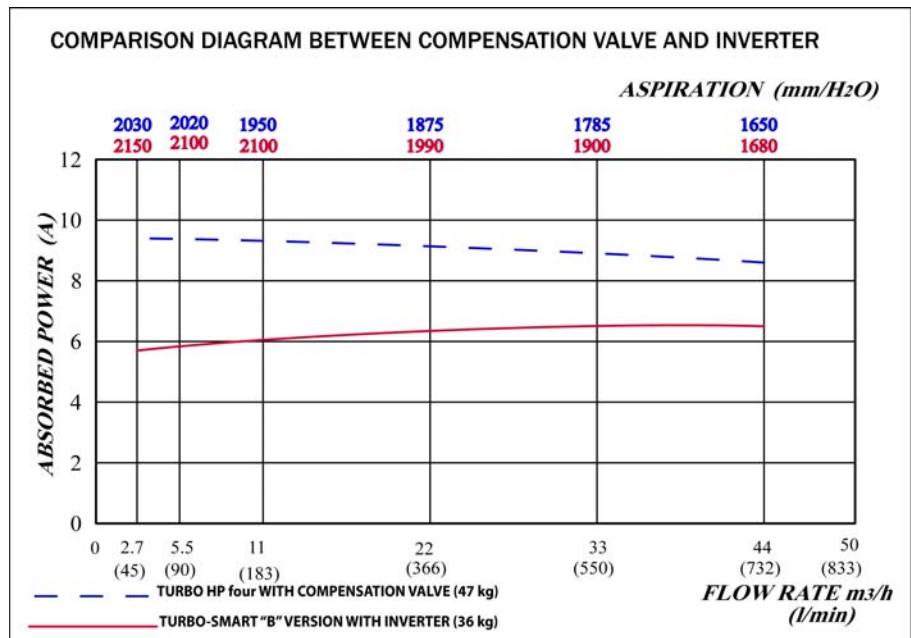
Various studies related to the European Commission SAVE project have shown that high efficiency electric motors (class EFF1 and EFF2) can save up to 29% of electricity, corresponding to over 17% lower CO2 emissions.

This is why Cattani S.p.a. uses inverters in its aspirators:

- The inverter (also called the VSD) improves the efficiency of electric motors and also allows the use of smaller motors to do the same job, achieving a saving in raw materials of up to 50% compared to using fixed speed motors.

- VSD and its specific software allow the operation of the machine to be programmed to automatically adjust the number of motor revolutions to the lowest required for the proper functioning of the system: reducing the rotation speed means less power consumption by the motor and translates into energy saving.

The working diagrams below



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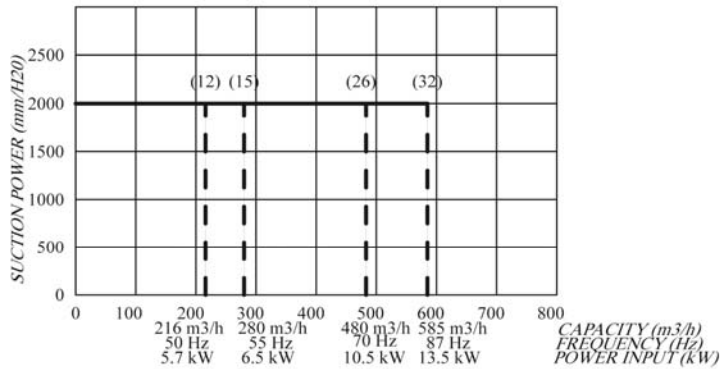
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demonstrate the energy savings achieved by using an inverter system compared to fixed speed motors.

SUCTION CURVE OF A UNI-JET 501 WITH INVERTER
AT 2000 mm/H2O DEPRESSION

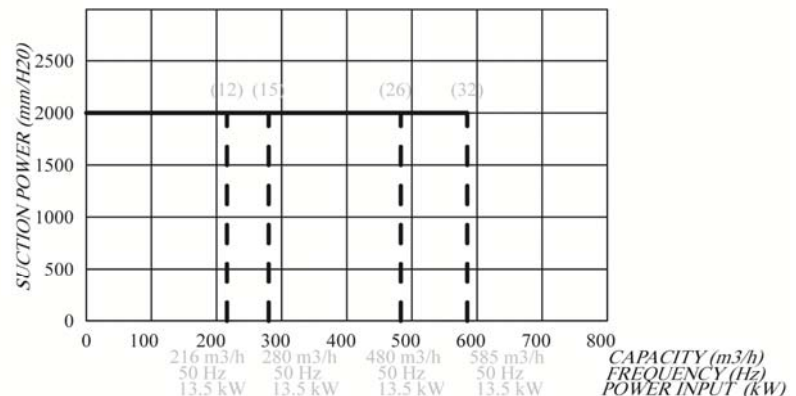


THE NUMBERS IN BRACKETS ARE WORKING PLACES THAT CAN BE SERVICED AT THE SAME TIME.

- FIGURE CALCULATED USING AIR CONSUMPTION OF 18 m³/h (300N l/min) PER USE -

ASPIRATOR MODEL UNI-JET 501 (88 Kg).

SUCTION CURVE OF A UNI-JET 1000 WITHOUT INVERTER
AT 2000 mm/H2O DEPRESSION



THE NUMBERS IN BRACKETS ARE WORKING PLACES THAT CAN BE SERVICED AT THE SAME TIME.

- FIGURE CALCULATED USING AIR CONSUMPTION OF 18 m³/h (300N l/min) PER USE.

ASPIRATOR MODEL UNI-JET 1000 (155 Kg).

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New technologies and functional advantages

It is always the new technologies that open up space for energy savings and functional benefits. VSD and its artificial intelligence allow the operating head to be programmed and stabilised during surgery and can be modified at any time. Also, the VSD and the software automatically adjust the capacity on request. Aspirators and compressors can send information to Cattani S.p.a. via the internet on the machine's operating conditions and, again via the internet, we can intervene remotely; being aware of the machine's functioning prevents unexpected breakdowns.

Self-protection

Equipment with inverters is also able to self-regulate automatically in the event of a criticality. For example, if a problem arises with the environment, the power supply, because of high temperature or an unexpected flow of liquid, the machine does not stop but adapts to the new situation and, once the emergency is over, continues its normal function.

General Considerations

For clarity, we have used concrete examples with verifiable data. Renewal means keeping up with the times, with state-of-the-art technologies and standards, and to waste less and perform better. A company that renews itself will overcome the crisis but a company that stands still will slowly die. One person alone is unlikely to affect a company's growth, but a group of motivated people can make a difference.

In the same way, an individual company alone will not resolve the crisis in our country just as one country will not solve the European crisis, but a group of companies or a group of countries can solve the crisis in Europe and the world. In the meantime, if everyone feels obliged to do whatever they can, it will be a good start.

Cattani S.p.A.

Parma, September 2012

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