

NSC..H

(e-NSC WITH HYDROVAR)

NSC..H SERIES (e-NSC WITH HYDROVAR)

Background and context

In all areas of application, such as building services, industry, agriculture and air-handling, the demand for intelligent pumping systems is constantly growing. There are many advantages: reduced cost for pump life cycle, lower environmental impact, longer lifetime of pipes and unions. That's why Lowara has developed the NSC..H: an intelligent pumping system which assures high level performance with energy consumption tailored to demand.

Benefits of NSC with HYDROVAR

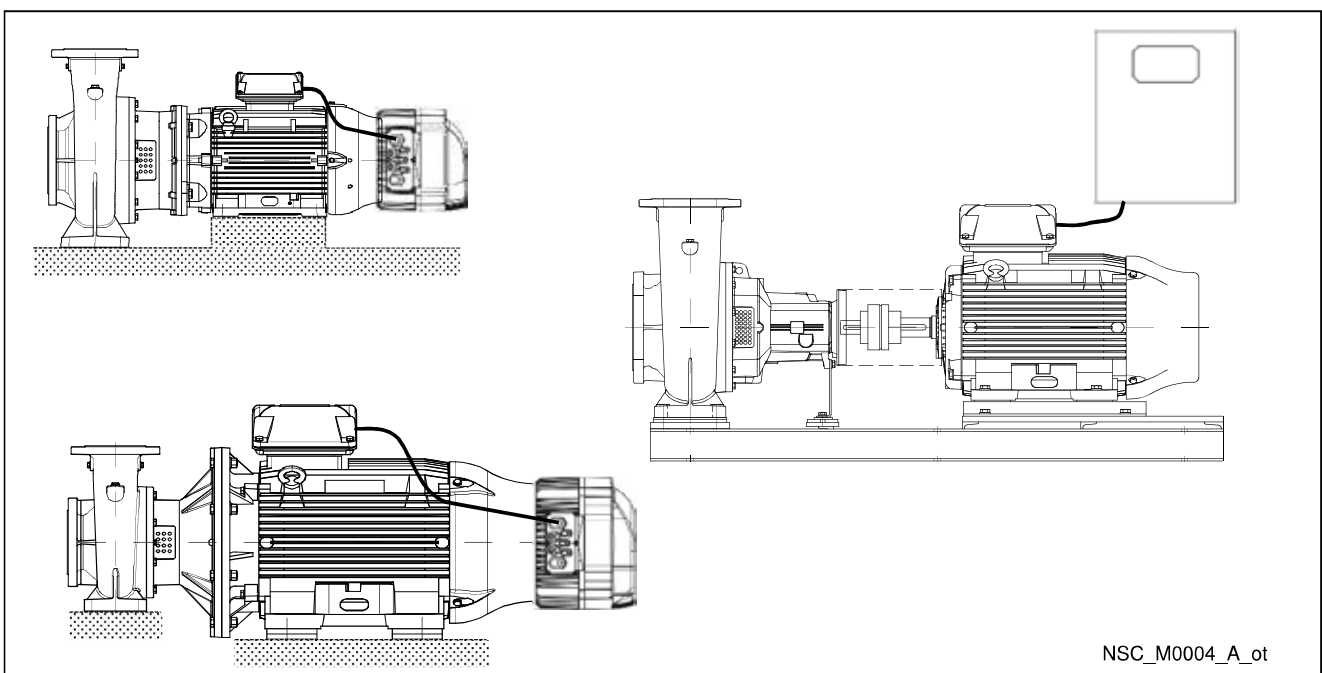
Saving: NSC..H transforms NSC pumps into variable speed intelligent pumping systems. Thanks to the HYDROVAR system, the speed of each pump varies so as to maintain a constant flow or pressure or differential pressure. The pump only receives the energy required, thus allowing considerable savings, especially for those systems in which demands varies during the day.

Easy installation and space-saving: NSC..H saves time and space during installation. Installed directly on the motor (up to 22 kW), which cools it down, and does not require a further control panel. , only fuses on the supply line (will depend upon any local electrical installation regulations). The wall-mounted HYDROVAR version is available for higher power outputs (up to 45 kW).

Standard motors: NSC..H models are fitted with three-phase standard TEFC motors with insulation class 155 (F).

Special features / benefits

- **There is no need for additional pressure sensors:** NSC..H are fitted with a pressure transmitter or differential pressure transmitters, depending on the application.
- **There is no need for special pumps or motors.**
- **There is no need for bypass or safety systems:** with HYDROVAR the pump immediately switches off when demand drops to zero or when it exceeds maximum pump capacity. This makes it unnecessary to install additional safety devices.
- **Anti-condensation device:** all units are fitted with anti-condensation devices which switch on when the pump is in standby in order to prevent condensation forming in the unit.



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The basic function of the HYDROVAR device is to control the pump to meet the system demands.

HYDROVAR performs these functions by:

- 1) Measuring the system pressure or flow via a transmitter mounted on the pump's delivery side.
- 2) Calculating the motor speed to maintain the correct flow or pressure.
- 3) Sending out a signal to the pump to start the motor, increase speed, decrease speed or stop.
- 4) In the case of multiple pump installations, HYDROVAR will automatically provide for the cyclic changeover of the pumps' starting sequence.

In addition to these basic functions, HYDROVAR can do things only by the most advanced computerised control systems, such as:

- Stop the pump(s) at zero demand.
- Stop the pump(s) in case of water failure on the suction side (protection against dry running).
- Stop the pump if the required delivery exceeds the pump's capacity (protection against cavitation caused by excessive demand), or automatically switch on the next pump in a multiple series.
- Protect the pump and motor from overvoltage, undervoltage, overload and earth fault.
- Vary the pump speed acceleration and deceleration time.
- Compensate for increased flow resistance at high flow rates.
- Conduct automatic test starts at set intervals.
- Monitor the converter and motor operating hours.
- Display all functions on an LCD in different languages (Italian, English, French, German, Spanish, Portuguese, Dutch).
- Send a signal to a remote control system which is proportional to the pressure and frequency.
- Communicate with another HYDROVAR or control system via an RS 485 interface.

