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# HELIOS-35

A magnetic induction heating machine for performing several industrial heating applications.



Patented



4.0 Industry









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# AVAILABLE VERSIONS



|   |   | The standard version of Helios-35 is equipped with a USB port and is designed to communicate remotely, so as to comply to 4.0 Industry Standards. | Helios-35 <i>Smart</i> version, thanks to the WiFi and Modem connections, includes both remote technical assistance and a scheduled maintenance service with dedicated reporting. |
|---|---|---|---|
|    | Base Unit   | <b>Included</b>   | <b>Included</b>   |
|   | USB Port  | <b>Included</b>   | <b>Included</b>   |
|  | Monthly Functioning Report                                | Not Available   | <b>Included</b>   |
|  | Real-time Monitoring and Technical Assistance             | Not Available   | <b>Included</b><br><i>up to 2 interventions</i>   |
|  | Standard Spare Parts Kit                                  | On Demand<br><i>Standard Prices</i>   | <b>Included</b>   |
|  | Inductors and Spares                                      | On Demand<br><i>Standard Pricelist</i>  | On Demand<br><i>Premium Pricelist</i>   |
|  | General Maintenance Check in Nuova Simat workshop         | On Demand<br><i>Standard Pricelist</i>  | <b>Included</b><br><i>up to 1 intervention</i>  |
|  | Spare Machine Rental or Technician's intervention on-site | On Demand<br><i>Standard Fees</i>   | On Demand<br><i>Dedicated Machine Premium Fees</i>  |



## Safe Tightening/Loosening on Turbine Casing and Valves.

Common applications of this machine concerns tightening and loosening hollow bolts, tie rods, nuts and more.



### Power and Safety.

The heating power of our magnetic induction machine is remarkable and allows to heat ferromagnetic components **reducing overall process time by 80%**. An outstanding result considering how slow and risky the old and obsolete electrical resistances/free flame heating methods were.



### All-in-one.

Differently from other bolt induction heating machines, Helios-35 is an **all-in-one** system. Apart from being really **compact** in dimensions, it doesn't need additional cooling systems or external water sources! It simply relies on an **internal cooling system**, which guarantees long hours of continuous functioning.



### External Heating

Our induction heater Helios 35, when equipped with ring-shaped inductors, can heat up any cylindrical surface, such as **seized nuts** for their quick removal.



### Inner Heating

The most common use of Helios 35 consists in heating up the **hollow bolts** of turbine casing or valves, through a straight inductor which generates the magnetic field inside the bolt hole.



# HOW DOES IT WORK?

1. The inductor is introduced into a hollow bolt and generates a magnetic field.

2. The effect of magnetic induction generates an **elongation** of the bolt through heating.

3. Nut loosening is easily accomplished.

a. NUT

b. HOLLOW BOLT

c. INDUCTOR

d. MAGNETIC FIELD

e. EFFECTIVE HEATING LENGTH

4. EASY LOOSENING  
Once the bolt has expanded, it is possible to easily remove the nut

5. THREAD IS SAFE  
Thread is not affected by heating

6. INTEGRATED COOLING SYSTEM  
The inner cooling system allows to use the inductor for several consecutive hours. It's even possible to touch it with bare hands!

7. CORE HEATING  
The magnetic field acts on the bolt core only to generate the elongation

8. CUSTOMIZED INDUCTOR  
Inductors are built in accordance to custom technical specifications in order to fit perfectly into the bolt

# DATA SHEET

## Technical specifications

|                        |   |
|------------------------|---|
| <b>Power</b>           | 25 KVA  |
| <b>Frequency range</b> | 5 ÷ 35 KHz  |
| <b>Supply</b>          | 400V AC-3PH-50Hz (60Hz on request)  |
| <b>Electrical plug</b> | 32A 3P+E  |
| <b>Weight</b>          | 205 Kg  |
| <b>Dimensions</b>      | 1000 x 830 x H 1000mm   |
| <b>USB Port</b>        | 2.0   |
| <b>Certifications</b>  | CE Compliance, 2006/42 EC<br>Machinery Directive, 2014/30 EU<br>Electromagnetic Compatibility |



### HELIOS-35



#### Base Unit

Watch an explanatory video



It is possible to add extra features to the Base Unit as follows:

#### OPTION 1

#### HELIOS-35T



#### Timer

Add an extra feature to the base unit by installing a timer which allows to set the desired heating time

#### OPTION 2

#### HELIOS-35R



#### Ring-Shaped Inductors (RSI)

This option allows to use RSI to heat cylindrical parts (e.g. for seized, rusted and corroded nuts removal)

#### OPTION 3

#### HELIOS-35TR



#### RSI + Timer

For exploiting the full capabilities of Helios-35



## An easy-to-use upgradable system.

Thanks to remote connection and USB port, software's update and technical assistance are at hand.



### Connectivity Package

With this option you can benefit from the advantages of our special **Technical Assistance Service (T.A.S.)** including:

- **Real-Time** Technical Support
- Periodic Functioning **Reports**
- Maintenance **Discounts**



### Patented

This unique induction heater has been **patented** by Nuova Simat S.r.l.



### USB Port

Allows to **download/upload** configurations, save the operating data and send them to our technical assistance service for analysis.



### Smart Power Regulation

Given the diversity of inductors, which are custom built, this machine is equipped with a **power control system** so as to guarantee that each inductor can always work at its maximum efficiency.

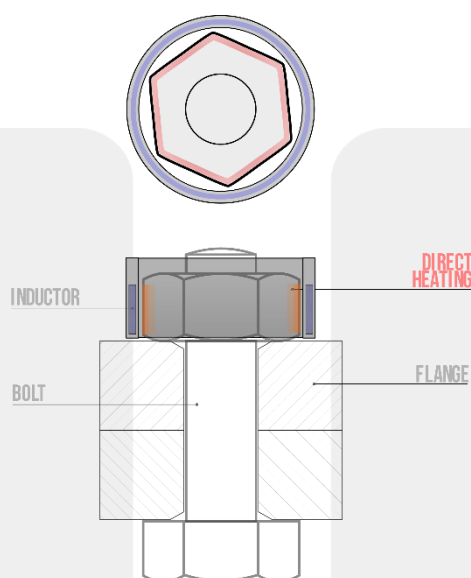
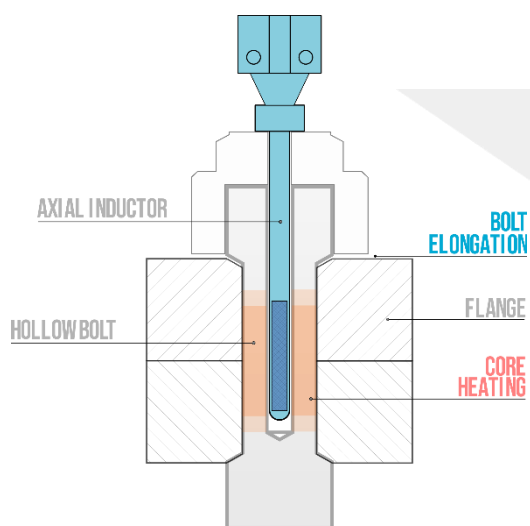




# INDUCTORS

## Common Applications

Inductors are mainly used in **Power Gen** and **Turbomachinery** context, where hollow bolts are commonly found. Standard dimensions of straight inductors start from  $\varnothing 9\text{mm}$  and variable lengths up to more than 1000mm.



## Encoding and customization.

Independently from the shape of the inductor, if ring-shaped or straight, it is possible to **custom-build** each inductor so as to perfectly fit the specific application. Customization aims not only at external dimensions but also to specific heating requirement, in order to guarantee **maximum efficiency**.

## References.

Over the past years we have provided induction solutions to important Oil&Gas and Power Gen Players.



Knowledge grows



A machine designed and manufactured by



**nuova simat**  
near to you.

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