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# ELIOS-35<sup>+</sup>

## MAGNETIC INDUCTION HEATING MACHINE

### BOLTING & SHRINK FITTING

**FAST**



**SAFE**



**PATENTED**



**ALL IN ONE**



**INDUSTRY 4.0**

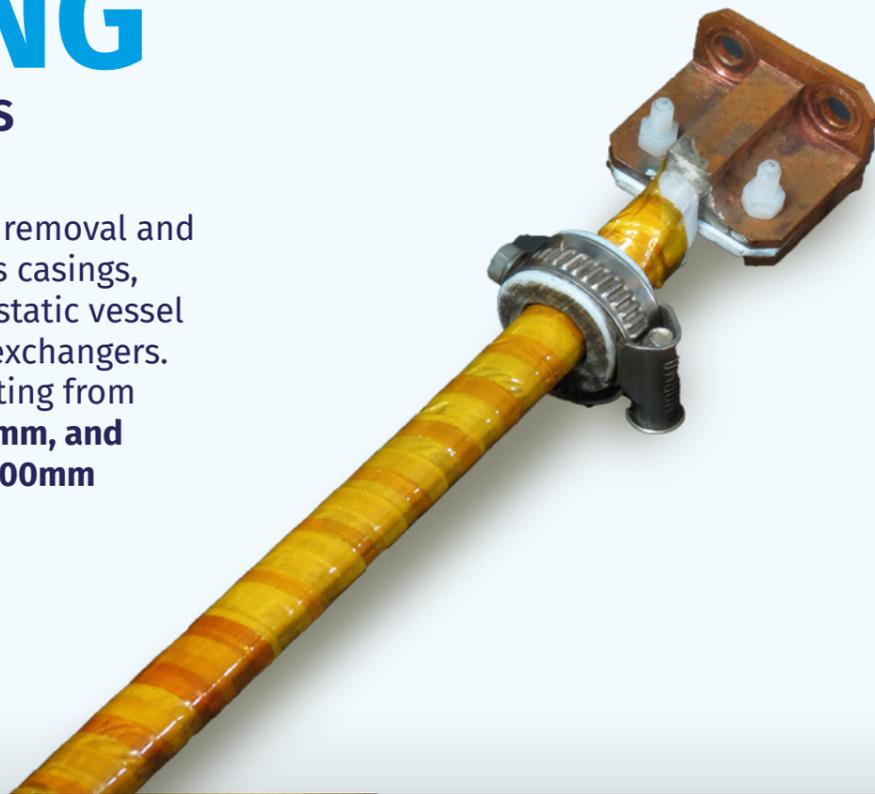




## BOLTING

### STRAIGHT INDUCTORS

For large size bolts / studs removal and installation on gas turbines casings, steam turbines, and other static vessel applications such as heat exchangers. Suitable for hole sizes starting from  $\varnothing$  9mm up to more than 32mm, and lengths up to more than 1500mm



## SHRINK FITTING

### RING-SHAPED INDUCTORS

Our induction heater Helios35+, when equipped with ring-shaped inductors, can heat up any cylindrical surface for on-site assembly and disassembly operations. Suitable for **diameters up to 600mm and more.**



# SAFETY AND TIME SAVING



HELIOS-35<sup>+</sup>

## METHOD COMPARISON

	INDUCTION HEATING HELIOS 35+	STANDARD METHODS Electric heaters, Flames
Heating time	2-3 min	50 - 60 min
Total operation time	6h (one technician only)	3 work shift /teo technicians)
Bolt heating	The bolt returns at initial temperature after few hours	The bolt returns at initial temperature after daytime
Casing heating	Not subject to significant heating (fast heating)	Subject to high temperatures: expansion risk (slow heating)
Nut rotation	Just after 1 min, the nut can turn by 60-70% without efforts	The nut must be turned by heavy hammering
Safety	Inductors (internally cooled) ca be touched with bare hands	Risk of burn or electrical shocks injuries

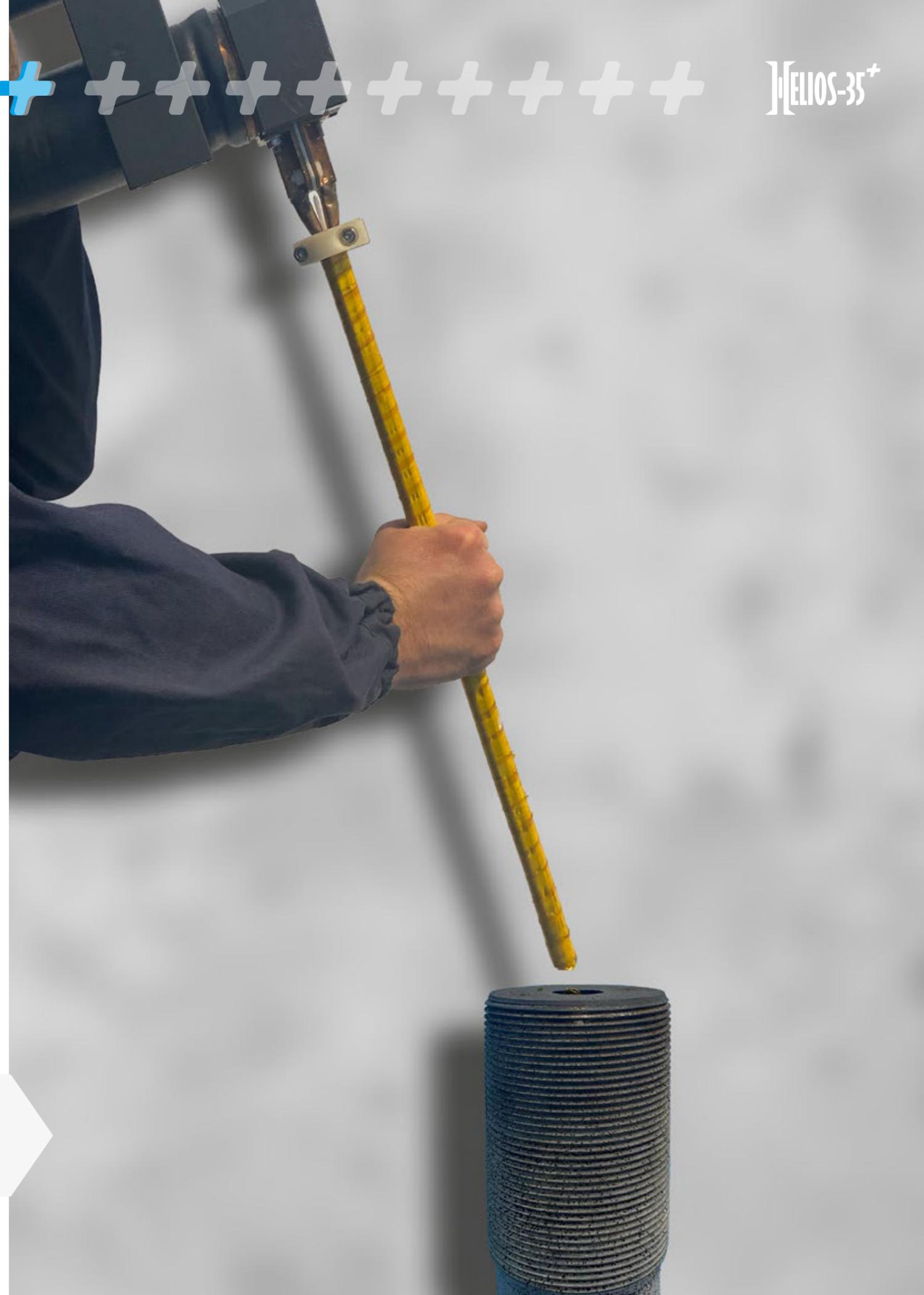
Case: Steam Turbine, Bolt quantity: 44, Bolt size: M64 x L=500mm

## PERFORMANCE

BOLT SIZE	INDUCTOR DIAMETER	HEATING TIME (300° C)
M42	9mm	40-50sec
M72	16mm	2 -3 min
M110	22mm	4-5 min
M160	28mm	6-7 min

 **OPERATION TIME REDUCED BY 80%**

 **NO RISK OF BURN INJUIRES**



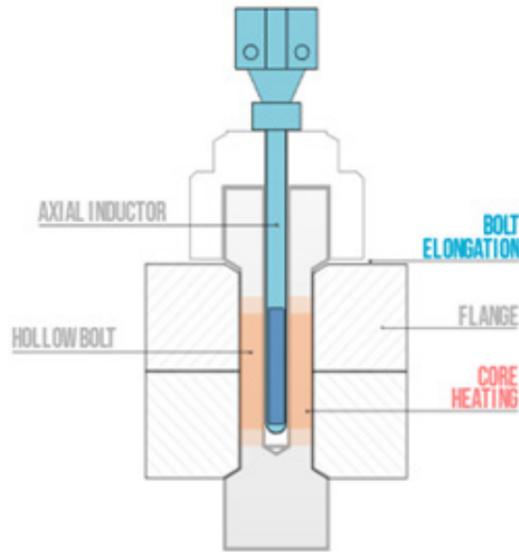


# HOW DOES IT WORK?

Our induction generator Helios-35+ converts the current coming from the power supply into a strong electromagnetic field; the inductor, once inserted in-to the bolt hole, will generate heat in the bolt without getting in direct contact with it. Once the bolt has elongated, it will be possible to easily loosen the nut.

The built-in cooling system of Helios-35+ allows to use the inductors for continuous work shifts. Moreover, as the inductor is internally water-cooled, it's even possible to touch it with bare hands after the heating process has been completed!

Our straight inductors are designed to heat up the bolt core only, without reaching the threads; indeed, they are manufactured in accordance with custom technical specifications!



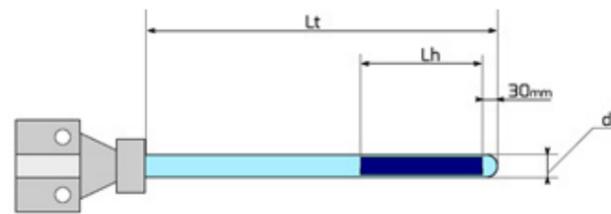
Our Encoding: Inductor code "IND d-Lt/lh"

Example: "IND 20-800/450"

(d) The inductor fits into a 20mm bolt hole, taking into account its dimensional tolerance.

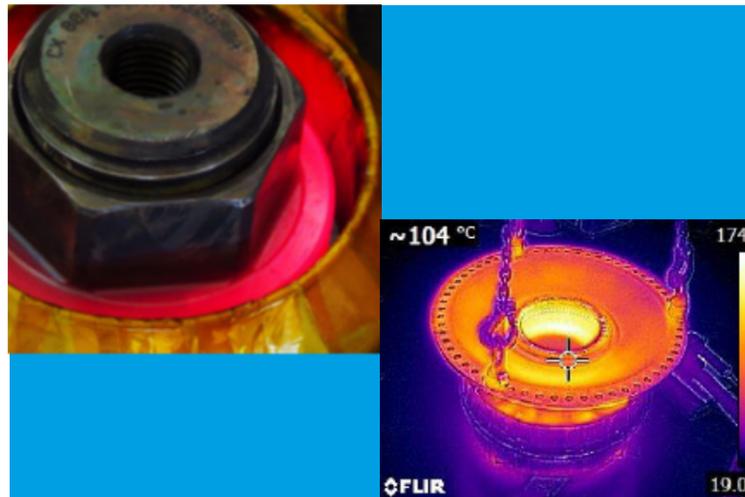
(Lt) The inductor has a total length of 800mm

(Lh) The heating length of 450mm is calculated starting 30mm from the bottom



Moreover, thanks to the power regulation function of Helios 35+, it is possible to control the heat flow rate achieving a slower or a faster heating process according to the specific application.

Such feature, combined with the temperature sensor option, will allow to manage any kind of shrink fitting for assembly or disassembly purposes, using standard ring-shaped inductors or customized ones.





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# DATASHEET



HELIOS-35<sup>+</sup>

## BASE UNIT HELIOS-35<sup>+</sup>

Complete of supply cable (approx. 10m), central power unit (integrated cooling system), power cable (approx. 10m), heating head.  
You just need to choose your inductors to start heating immediately!

<b>POWER</b>	30 KVA
<b>FREQUENCY RANGE</b>	5 ÷ 35 KHz
<b>SUPPLY</b>	380-440V AC-3PH-50Hz/60Hz
<b>ELECTRICAL PLUG</b>	32A 3P+E
<b>WEIGHT</b>	205 Kg
<b>DIMENSIONS</b>	1000 x 830 x H 1000mm
<b>COOLING SYSTEM</b>	 Integrated
<b>FEATURES</b>	 4.3" Color graphic display  Power regulation  Diagnostics (faults detection system)  USB Port
<b>CERTIFICATIONS</b>	CE Compliance, 2006/42 EC Machinery Directive, 2014/30 EU Electromagnetic Compatibility

## OPTIONS AVAILABLE

<b>HELIOS-35+_T</b>	 <b>TIMER</b> to set the desired heating time
<b>HELIOS-35+_SMART</b>	 <b>4.0 INDUSTRY</b> to communicate remotely via Wi-Fi connections. This option, through the provided "Helios Manager" software will allow to: - Remotely set up working plans - Record heating data - Generate performance reports
<b>HELIOS-35+_S</b>	 <b>TEMPERATURE SENSOR</b> To set up the maximum desired temperature



# ACCESSORIES

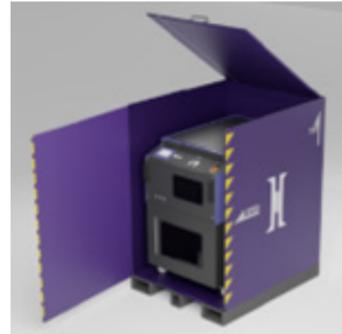
HELIOS-35<sup>+</sup>



CUSTOM  
INDUCTORS



PORTABLE TAPING  
SYSTEM



METALLIC BOX

# REFERENCES

Over the past years we have been working with the most important Oil&Gas and Power Generation Players all over the world.

*"The induction machine has proved indispensable in the disassembly of the bolts of the steam turbines of our plants, allowing a significant saving of time for the exercise of operations, an operation previously unthinkable and above all important increase in safety in the execution of heating operations that are no longer restricted due to any kind of flames."*

*"We are very satisfied with this investment, since it allowed us to work in complete safety and significantly reduced the processing time."*



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