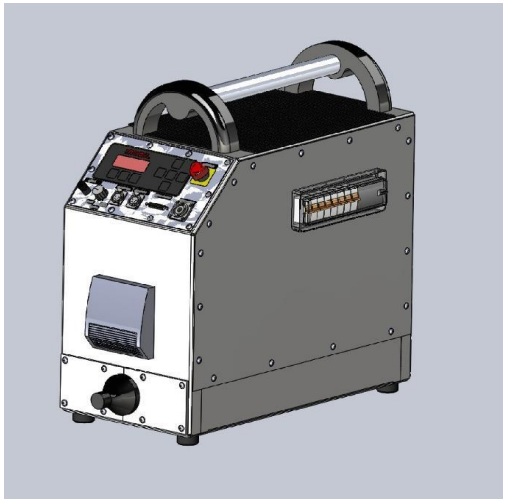
INCOIL INDUKTION AB SWEDEN

Induction Heating Equipment



Application:
Annealing
Bolt Heating Bonding
Brazing Forging
Hardening Melting
PWHT Preheating
Shrink Fittings
Special Solution

Industry:
Automotive
Aviation / Aerospace
Electrotechnical
Marine
Oil & Gas
Petrochemical
Power Plant
Mold and Die

We offer Complete Solution:
Induction Heating Machine
Induction Coils
Cooling System (Custom Made)
On-site setup, installation, commissioning & training.
After sales services
Spare Parts
Technical advise and consultation.
Repair of broken induction coils.
Proudly working with local partner for South East Asia region.

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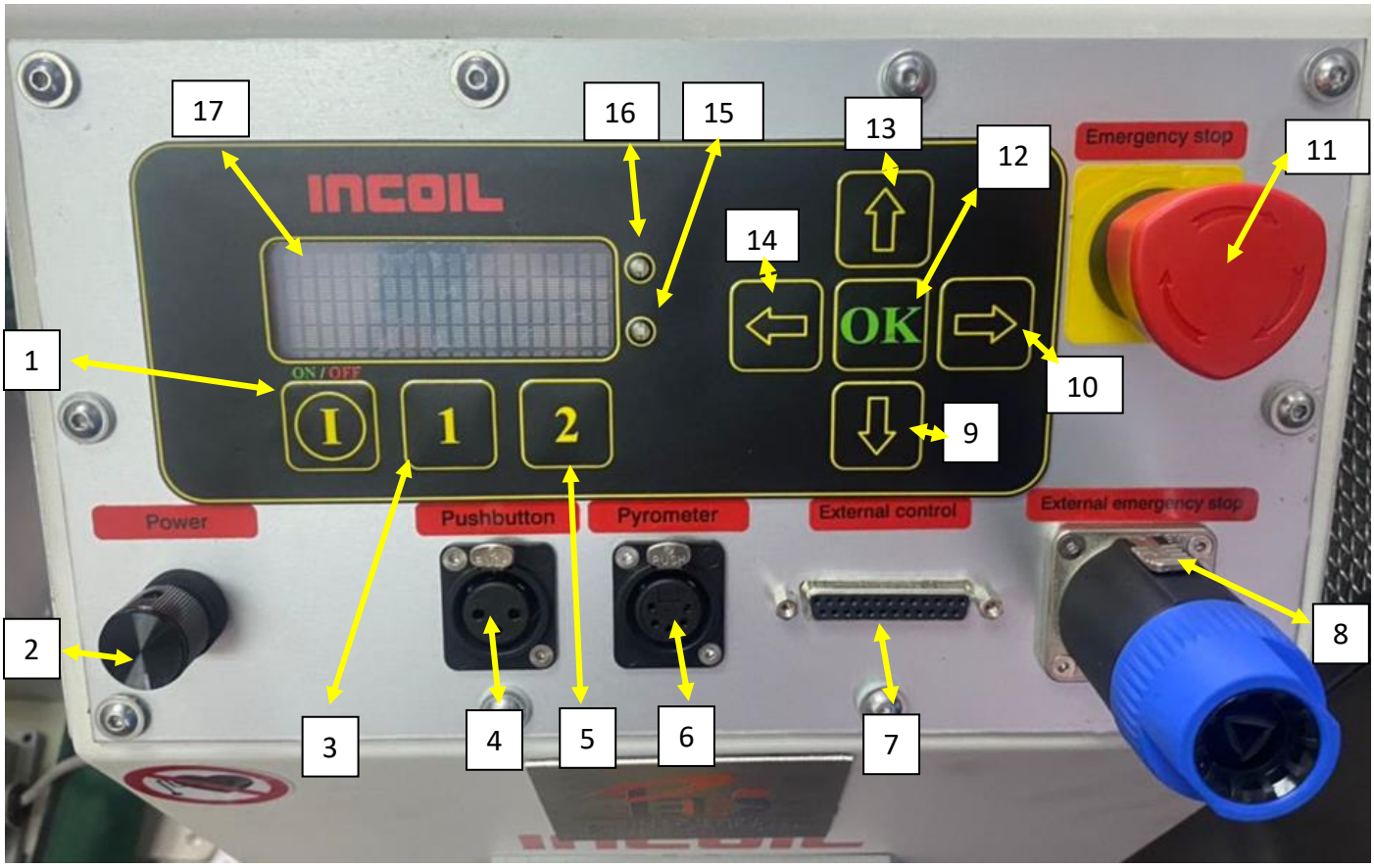
Induction Heating Mahcine Control Panel Information (Non-Touch Screen)



Item	Description	Remark
1	ON/OFF (Machine ready to heat button)	
2	Power Potentiometer (tune to increase or decrease output power)	
3	Start/Stop Heating Button	
4	Push Button Connector for external on/off button / foot pedal	X
5	Lock/Unlock Desired Output Power Button	
6	Pyrometer Connection for external temperature sensor (IR-Pyrometer)	X
7	External Control Connector for external PLC	X
8	External Emergency Stop Circuit / Key	X
9	Down Arrow	
10	Right Arrow	
11	Emergency Stop Push Button (E-STOP)	
12	Set / Confirm / Acknowledge / Reset	
13	Up Arrow	
14	Left Arrow	
15	LED Light – Orange – Ready to Heat; Green – Heating in Progress; Red – Current Limit	
16	LED Light – Green – OK; Red – Error	
17	Menu Display Window	

Note: X = Optional accessories / external accessories

Technical specifications

	IH11S	IH11	IH22S	IH22
Continuous Output power / kVA	11	11	22	22
Frequency Range kHz	3 - 50	3 - 50	3 - 50	3 - 50
Supply voltage/current range	16	16	32	32
Power Frequency Hz	50/60	50/60	50/60	50/60
Cooling	Extern	Extern	Extern	Extern
Recommended water flow L/min[1]	15	35	15	35
Water pressure bar min/max	3 - 8	3 - 8	3 - 8	3 - 8
Max temperature electronic	50˚C	50˚C	50˚C	50˚C
Max temperature water	40˚C	40˚C	40˚C	40˚C
Chassis height	300mm	650mm	300mm	650mm
Chassis width	310mm	310mm	310mm	310mm
Chassis depth	600mm	600mm	600mm	600mm
Total weight approx.	25kg	43kg	25kg	40kg
Transformer length - standard 5 m	5, 10	5, 10	5, 10	5, 10

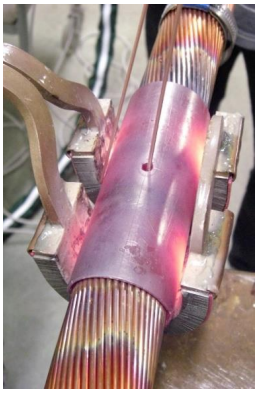
	IH22FB	IH30FB	IH43FB	IH86FB
Continuous Output power / kVa	22	30	43	86
Frequency Range kHz	3 - 50	3 - 50	3 - 50	3 - 50
Supply voltage/current range	400V & 230V / 32	400V & 230V / 63	400V & 230V / 63	400V & 230V / 125
Power Frequency Hz	50/60	50/60	50/60	50/60
Cooling	Extern	Extern	Extern	Extern
Recommended water flow L/min[1]	35	35	45	60
Water pressure bar max	8	8	8	8
Max temperature electronic	55˚C	55˚C	55˚C	55˚C
Max temperature water	40˚C	40˚C	40˚C	40˚C
Chassis height	630mm	630mm	630mm	890mm
Chassis width	310mm	310mm	310mm	400mm
Chassis depth	600mm	600mm	600mm	900mm
Total weight approx.	43kg	45kg	48kg	70kg
Transformer length - standard 5 m	5, 10	5, 10	5, 10	5, 10

[1] The water consumption and limits differs between machines of different applications depending on coil design and usage. All final technical data shall be determined by PEES-Incoil according to application. Bolt Heating Application Induction Heating Machine Output power is recommended not over 43KVA. If using higher output power to heat, there is risk that the bolts of steam turbine will damage (become harden, fragile or crack) due to overheating / too fast heating. Induction Heating Coils also may damage (over burnt) as well.

Technical specifications

	IH11 FB Twin	IH22 FB Twin	IH43 FB Twin
Continuous Output power / kVA	2x11	2x21.5	2x43
Frequency Range kHz	3 - 50	3 - 50	3 - 50
Supply voltage/current range	400V & 230V / 32 A	400V & 230V / 63 A	400V & 230V / 125 A
Power Frequency Hz	50/60	50/60	50/60
Water Cooling System	Extern	Extern	Extern
Recommended water flow L/min[1]	35	35	55
Water pressure bar (Min / Max)	5 / 8	5 / 8	5 / 8
Max temperature electronic	55˚C	55˚C	55˚C
Max temperature water	40˚C	40˚C	40˚C
Chassis height	700mm	700mm	700mm
Chassis width	450mm	450mm	450mm
Chassis depth	750mm	750mm	750mm
Total weight approx.	67kg	70kg	75kg
Transformer length - standard 5 m	5, 10	5, 10	5, 10

Security Class: Standard
EN 61000-6-4
EN 61000-6-2
EN 60335-1



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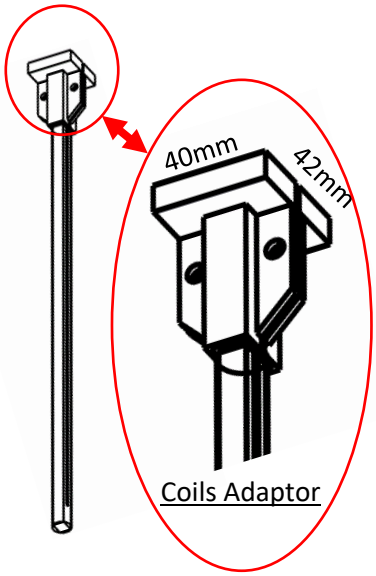
INDUCTION HEATING COILS INFORMATION

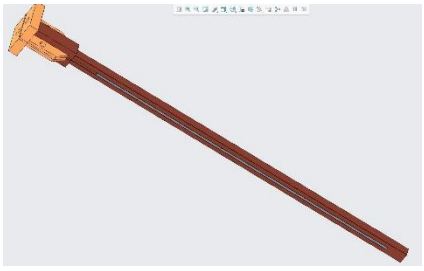


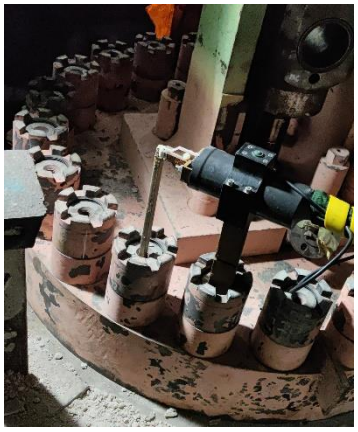
Induction heating coils are custom made according to each application and need to design and build to suit the requirement, space and handling at jobsite.

The handling, maintenance and repair to be done from time to time.

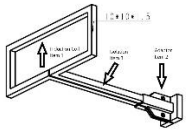
Please contact us for more info.

Bolt Heating Coils





Brazing Coils



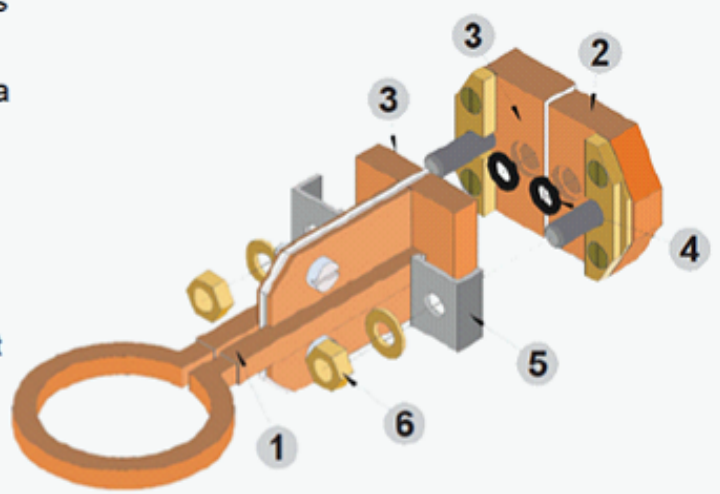
Shrink Fitting Coils
Flexible Cable – Removal of coupling Hub

INDUCTION HEATING COIL – Complete Custom Design & Build.

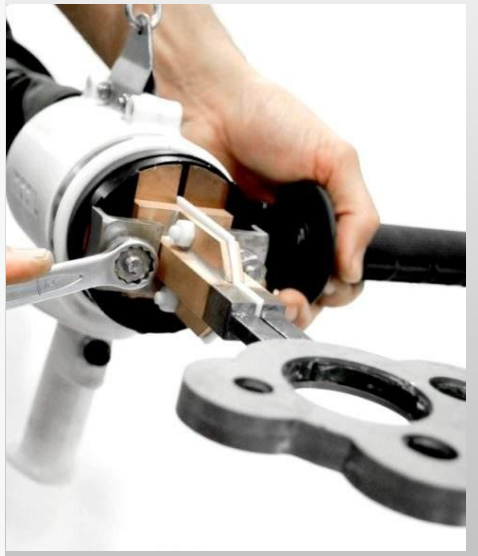
INDUCTION HEATING COILS INSTALLATION TIPS

Mounting induction heating coils improperly often causes problems that eventually require service calls. It is very important to install coils correctly to prevent costly down time and repairs or to make a new coils. When mounting an induction heating coil keep the following steps and tips in mind:

- Turn off cooling water.
- Turn off the main switch.
- Place a bucket under the inductor to capture leaking cooling water.
- Loosen the nuts (6) on the connector jaws (2) in order to release the thrust pieces (5).
- Pull the inductor (1) towards the top and remove.
- Clean both contact surfaces (3) with a Scotch-BriteTM pad.
- Check both O-rings (4) for damage and replace them if necessary.
- Check both contact surfaces (3) for damage; if any.
- Insert the coil.
- Make sure the coil and the hand held transformer (HHT) slot is tight fit.



1 = coil
2 = connector jaws
3 = contact surfaces
4 = O-rings
5 = thrust piece
6 = brass nut



Caution! Be sure to use only brass or stainless steel nuts and washers!

Use the following torques when tightening the nuts:

- M6 nuts = 9 Nm.
- M8 nuts = 13 Nm.
- M10 nuts = 19 Nm.

Please also be aware of the following:

- Over-tightening can lead to thread stripping on the nuts (6).
- Under-tightening can lead to:
  - Arcing between the coil and coax contact surfaces (3), which can lead to surface pitting.
  - Current running throught the stud to the clamp, which can melt the stud.