

INDUCTION

Induction-heating systems



PRESENTATION

Part 1 - Introduction to induction heating

Part 2 – How it could be used

Part 3 - The induction range

Part 4 - Demonstration video

Part 5 - Which model to choose?



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Part - 1

Why heat parts?



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Part - 1

Innovation, the environment & economic challenges.

The world is evolving.



Automotive technology evolution



Environmental solutions need to be found



Profitability, saving time and safety are all crucial



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Part - 1

The GYS induction-heater range is an ideal solution that meets all users' heating needs.

This equipment can be used by all industrial sectors:

AUTOMOTIVE

Garages (from mechanical workshops to dealerships and scrapyards)

AGRICULTURAL

Repair workshops, industrial agriculture, shops and distributors

HGV

Workshops, breakdown repairs, public works and handling machines

INDUSTRY

Boiler making, metalwork and the food industry

SHIP INDUSTRY

Shipyards

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Part - 1

Induction heating is faster and more secure than flame heating!



SAFETY

Induction Heating

Being flameless, induction heating can be used near heat-sensitive and flammable areas without damaging the parts.

Flame Heating

This process works with gas and generates a flame that could be dangerous for the user.



IMMEDIATE

Induction Heating

Quick and easy to heat the parts and the heat spreads very quickly throughout the metal. It's also fast to operate and set up.

Flame Heating

It's heating time, operating time and set up time are much longer.

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Part - 1

Induction heating uses localised heat, making it more profitable than flame heating!



PRECISION

Induction Heating

Localised heat in order not to damage the other parts. Heating a specific area becomes very easy.

Flame Heating

The heating area is large and diffused. It can damage nearby elements.



PROFITABILITY

Induction Heating

Easy to set up, heats quickly and only uses electricity.

Flame Heating

Expensive in the long term (gas contract, filling up gas bottles and a longer heating time).

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Part - 2

How best to use induction heating?



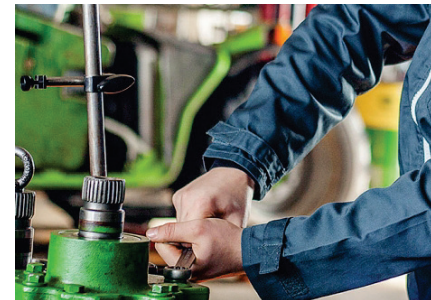
Mechanics and Maintenance

- Unblocking or dismantling (steering tie rods etc.)
- Heating up chassis sections (excluding high-strength steels)
- Releasing nuts and bolts, spark plugs and injectors



Car Bodywork

- Unsticking adhesive elements, protective strips and mouldings
- Small dent repairs without paint
- Straightening out vehicle panels and chassis (excluding high-strength steels)



Agriculture

- Releasing/unjamming (steering ball joints, push/draw bars, vertical grinding axe)
- Straightening (bucket teeth, harrows and wagon knives etc.).



Industry

- Preheating welded parts
- Annealing metal parts
- Bending
- Brazing

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Part - 2

Examples of possible applications

Agriculture: unjamming parts

Steering ball joints

In most cases, this part is assembled with glue that needs to be heated up to release. Using a blowtorch would be a problem as the flame would damage the cables that are close to the area being heated.



Other examples: vertical grinding axe, push/draw bars, etc.

Suitable model: minimum 50LG

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Part - 2

Examples of possible applications

Agricultural straightening

Bucket teeth

Mainly used to collect straw, grass and hay, these teeth can become damaged or bent when collecting rocks and bigger items that should not be picked up.



Other examples : straightening harrow feeds, wagon knives, etc.

Suitable model : 110LG minimum

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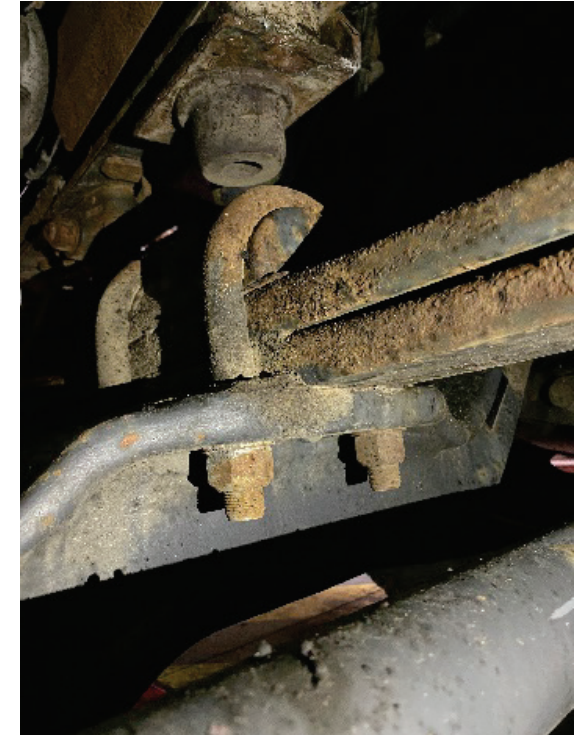
Part - 2

Examples of possible applications

Releasing/unjamming HGV parts

Exhaust flanges and leaf springs

AdBlue tanks are usually located near these parts, so using flame heating is very risky (or forbidden in some cases) to ensure that the tank is not damaged.



Other examples: steering ball joints, steering boxes, jack axis, etc.

Suitable model: 110LG minimum

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Part - 2

Examples of possible applications

Straightening HGV parts

Bumpers

Front and rear bumpers are very long parts to straighten up if they become damaged. The three-phase POWERDUCTION products are more efficient than flame heating as the heating time is considerably faster.



Suitable model: 110LG minimum

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Part - 2

Examples of possible applications

Releasing and unseizing light commercial vehicles' parts

Exhausts

Disassemble exhaust lines by heating the flanges or the assembled tubes.



Other examples : steering ball joints, stabiliser bars...

Suitable models: 10R/37LG

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Part - 2

Examples of possible applications

Heat shrinking



Heat shrinking is a simple and highly efficient method that consists of suddenly heating a localised area of a workpiece's with a high heat to straighten it up.

Heating time using the 220LG: 2 min
Time between the two pictures: 10 min



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Part - 3



Complete INDUCTION range

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Part - 3

POWERDUCTION 10R

The multi-application spiral-inductor

Applications:

Suitable for automotive workshops, maintenance, ironwork and metal construction.

Features:

- Compact and **very light** (3.5 kg)
- Very mobile, it can be carried over the shoulder
- Plug in anywhere with a **single-phase socket**
- Quick start: plug in, use
- **1,200 W** of power
- Delivered in a case and supplied with five inductors including spiral, braided and flexible



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Part - 3

POWERDUCTION 37LG

The combination of power and mobility

Applications:

Suitable for automotive work, car body repairs, motorcycle workshops and maintenance.

Features:

- Compact and portable (15 kg)
- Power: **3,700 W** can be adjusted in 250 W increments
- Max. power duty cycle: 7 min
- Supplied with S90 inductor (ref. 058927)
- **Liquid-cooled** power source (1.5 l)



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Part - 3

POWERDUCTION 39LG

The perfect compromise for vehicle workshops

Applications:

Suitable for automotive work, maintenance as well as lorry and car body workshops.

Features:

- Compact and can be **easily moved** around the workshop
- Power: **3,700 W** can be adjusted in 250 W increments
- Max. power duty cycle: 15 min
- Power supply with **PFC and PROTEC 400 technology**
- Inductor cable: 3 m with cable support
- Supplied with complete C20/B1 inductor (ref. 056862)
- Maximum power for **230 V socket with 16 A fuse**
- Liquid-cooled power source (7 l)



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Part - 3

POWERDUCTION 50LG

Quietly powerful

Applications:

LGV and HGV workshops, agricultural fieldwork and maintenance.

Features:

- Power: continuous **5,200 W** (5,200 W at 100%)
- Single-phase power supply with **PFC and PROTEC 400 technology**
- Power cable: **8 m**
- Inductor cable: 3 m with cable support
- Supplied with complete C20/B1 inductor (ref. 056862)
- Power cable for use with a **16 A plug**
- Liquid-cooled power source (7 l)



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Part - 3

POWERDUCTION 110LG

Efficiency in a small format

Applications:

HGV industry, agriculture and construction as well as shipping, railways and general maintenance.

Features:

- Power: continuous **11 kW** (max. power)
- **Works from a 16 A, three-phase plug**
- Power cable: 5 m
- Inductor cable: **4 m with cable support**
- Supplied with a **pneumatic, stop/start foot pedal**
- Supplied with L90 inductor (ref. 059788)
- **Liquid-cooled** power source (7 l)



- 400 V - 3 ~
- 208/240 V - 3 ~



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Part - 3

POWERDUCTION 160LG

High performance

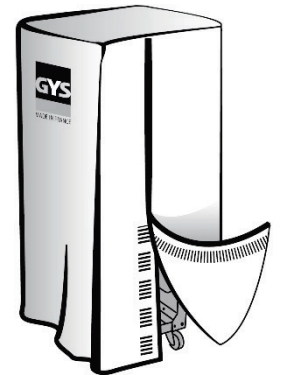
Applications:

HGV industry, agriculture and construction as well as shipping, railways and maintenance.

Features:

- Power continuous 16 kW (16 kW at max. power)
- Works from a 400 V, three-phase, 25 A plug socket
- Liquid-cooled power source (30 l)
- Power cable: 4 m
- Inductor cable: 6 m with cable support
- Comes with a **pneumatic, stop/start foot pedal for optimal control**
- Supplied with L90 inductor (ref. 059788)

- 400 V - 3 ~
- 208/240 V - 3 ~



Protection cover available

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Part - 3

POWERDUCTION 220LG

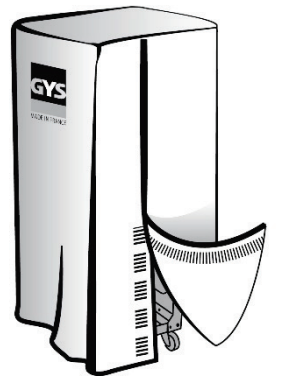
Unlimited power

Applications:

HGV industry, agriculture and construction as well as shipping, railways and maintenance.

Features:

- **Continuous 22 kW** (16 kW at max. power)
- Works from a 400 V, three-phase, 25 A plug socket
- **Liquid-cooled power source** (30 l)
- Power cable: 4 m
- Inductor cable: 6 m with cable support
- Supplied with a **pneumatic foot pedal for optimal control**
- Supplied with L20/B4 (ref. 067882)



Protection cover available

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Part - 3

Ergonomics alongside comfort

Handheld

Use this handle on our three-phase induction heaters

- Comfortably works in all positions
- Easy to transport
- Less effort to heat up the parts as well as more precise
- Comes as standard with POWERDUCTION 110LG | 160LG | 220LG by the end of 2021



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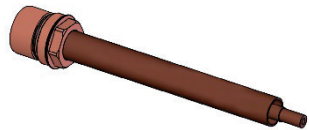
Part - 3

Inductors (range : Small)

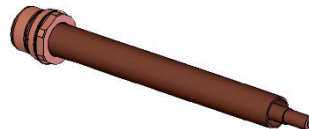
The induction-heating range benefits from a wide range of inductors, also called induction heads, that are specially designed to meet all of your induction-heating needs.

Adaptors

28 S



32 S



S180



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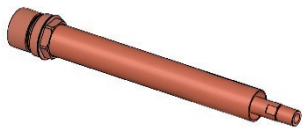
Part - 3

Inductors (range : Large)

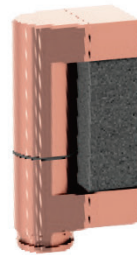
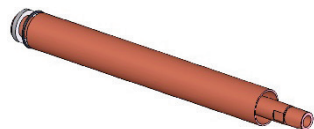
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Adaptors

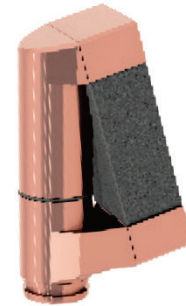
28 L



32 L



L90



L70



L180



S180 Spiral



L20/B4



L20 Alu glove

L180



D60



D70



D80



D90



D100



D110



D120

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Induction-heating systems

Part - 3

Inductors* (range : Complete)

The induction-heating range benefits from a wide range of inductors, also called induction heads, that are specially designed to meet all of your induction-heating needs.



*Only compatible with POWERDUCTION 39LG and 50LG



C20/B1



C180/B1



C180/B2



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Part - 4

Demonstration video

The POWERDUCTION 160LG heats a 4 mm steel plate that reaches 1,000°C in only four seconds. This water-cooled power source's heating system can work continuously at maximum power.

What's more, this unit can heat a specific localised area, whereas a blowtorch with a naked flame would heat up a much larger area.



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Part - 5

Which model for which application?

Model	Power supply	Protection	Power	Potential users
POWERDUCTION 10R POWERDUCTION 37LG	single-phase 230 V	16 A	1,200 W - 3,700 W	Vehicle repair workshops, breakdown mechanics, scrap yards, on-site personnel
POWERDUCTION 39LG	single-phase 230 V	16 A	3,700 W	Vehicle repair workshops, industrial agriculture
POWERDUCTION 50LG	single-phase 230 V	25 A	5,200 W	CV workshops, small agricultural workshops, machinery rental companies
POWERDUCTION 110LG 160LG 220LG	3~ 400 V (110LG/160LG/220LG) 3~ 208V - 240V (110LG/160LG)	16 A - 45 A	11,000 W - 22,000 W	HGV and agricultural workshops, public infrastructure, general industry, hydraulics, warehouses, metalworkers

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Why invest in GYS equipment?



- ✓ Designed and manufactured in France
- ✓ Products sold in 130 countries worldwide
- ✓ 820 collaborators around the world
- ✓ A specialised, worldwide logistic centre
- ✓ A pioneering R&D centre based in France
- ✓ Products tested and approved by the world's most demanding manufacturers



THANK YOU

for your attention

