

# DELTA50 + and its multiples

When its 70KW maximum are not enough to carry out a hard work, you just need to synchronize generator Delta 50 with another Delta 50, and with another one, and another one, till you reach a great power concentrated in a single control

# DELTA50

## STATIC GENERATOR FOR PIPE INDUCTION HEATING

### SPECIFICATIONS

- **3-Phase** 380/460VAC 50/60Hz
- Regulating power from 1 KW to **70KW max**
- Suitable for **all** pipe diameters
- Automatic variable frequency **from 8KHz to 20KHz**
- **Multifunctional** and simple to control through touch screen (available in Italian, English or other languages on request)
- Automatic calibration on any kind of pipe and accessory
- Data and cycles **storage**
- Working temperature from **-40°C to + 50°C**

#### Dimensions

Without eyebolts:

H 845 mm x W 590 mm x L 1050 mm

Weight: 210 kg



### PIPELINE APPLICATIONS

- **Welding preheating**
- **Joint coating preheating**
- **Heat treatment (PWHT)**
- **Localized demagnetization**

Heat treatment (PWHT)



Welding preheating



Joint coating preheating





Control front



Back connections



Crane hanging-up

Lift truck

+

More DELTA50, more power

As explained in the cover, to increase the power available when required, it is possible to connect several **DELTA50** (as "cluster") up to a maximum of six generators, supplying more than 300KW and controlling them through a single touch screen.

**TRANSPORT AND MAINTENANCE**

**DELTA 50** is made to operate in hard environments, it can be easily moved through a lift truck and a crane or, for little movements, through a fork truck.

Ordinary maintenance consists in periodically controlling and restoring the internal coolant. Extraordinary maintenance is pointed out in the display, otherwise just follow the manual instructions.

**Parmaprogetti** is always available to assist and advise its customers and, through the installation of the optional **telecontrol system**, it is possible to **operate at a distance**.

**INDUCTION HEATING TRACTOR**

Parmaprogetti makes, in cooperation with Tractor System, complete settings of onshore means for induction heating. Series models:

**MACH2:**

- 90 HP
- 3-ph alternator 400V/230V,48V
- N°1 Delta 50 static generator
- Crane, maximum jib length 6m, 800Kg (others on request)
- Hydraulic controls



Special versions for extreme cold or extreme hot climates can be made on request.



**MACH2 & MACH3**

**High performances means**

- Speed 2- 4,5 Km/h
- Soundproof and air-conditioned cabin
- Low consumption
- Supersilenced 92 LWA

They can transport and supply all kind of coils in every induction heating applications (welding pre-heating, coating pre-heating, welding post-heating, heat treatment etc.)

**MACH3:**

- 120HP or 160HP
- 3-ph alternator 400V/230V,48V
- N°2 Delta 50 static generator in synchro (tot 100KW or 140KW)
- Crane, maximum jib length 6m 800Kg (others on request)
- Hydraulic controls



The means are covered under Parmaprogetti warranty which includes assistance and spare parts supply all over the world.

**SIMPLE ACCESSORIES  
WITHOUT FORCED COOLING**

Standard accessories:

- Insulating band for preheating max 300°
  - Normal, medium and extra length
- Insulating band for PWHT max 900°
  - Normal, medium and extra length
- Two couples of output cables
  - Standard length 12 m (others on request)
- Coils with quick connection
  - Openable and fixed
  - Dimensions on request
- Thermocouples type K
  - Stainless steel type
  - Twin welding wire
  - Others on request
- Remote control and Remote emergency stop



Remote emergency stop



Insulating band



Remote control



Output cables

**OPTIONALS**

- Temperature recorder with 12 inputs
- Telecontrol INTERNET/GSM
- "Cluster" synchronizing cables



Thermocouple and compensated cables

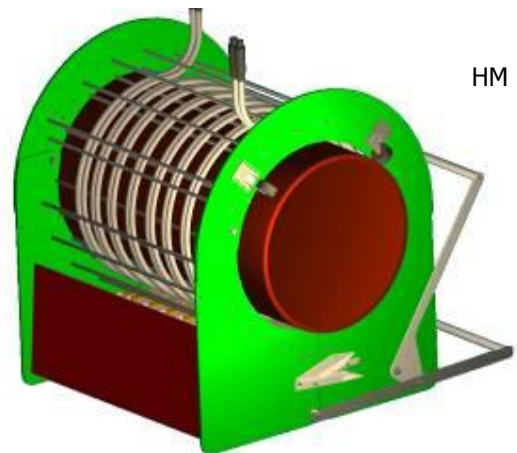
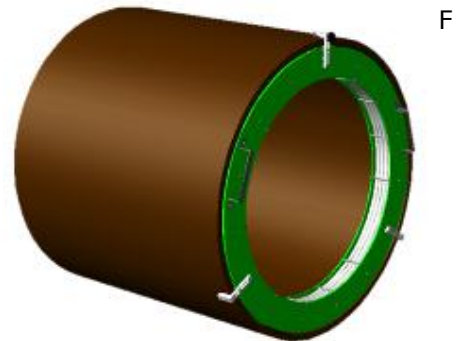
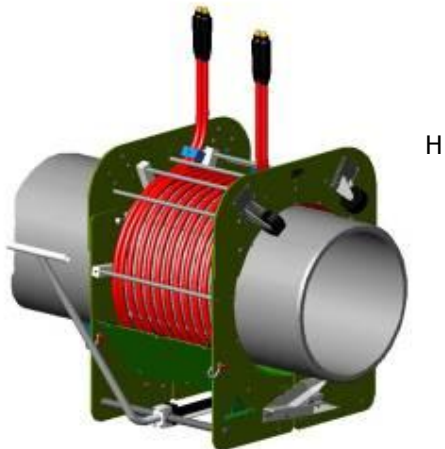
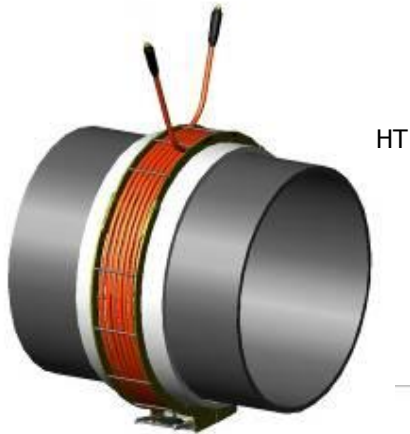
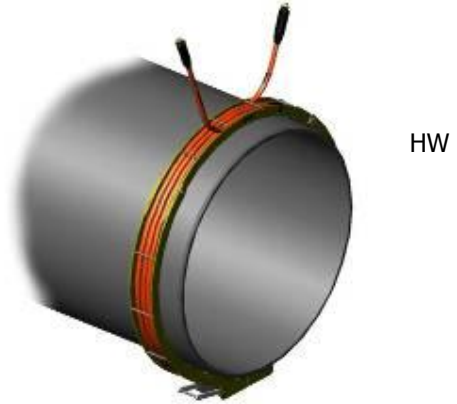


Temperature recorder with 12 inputs

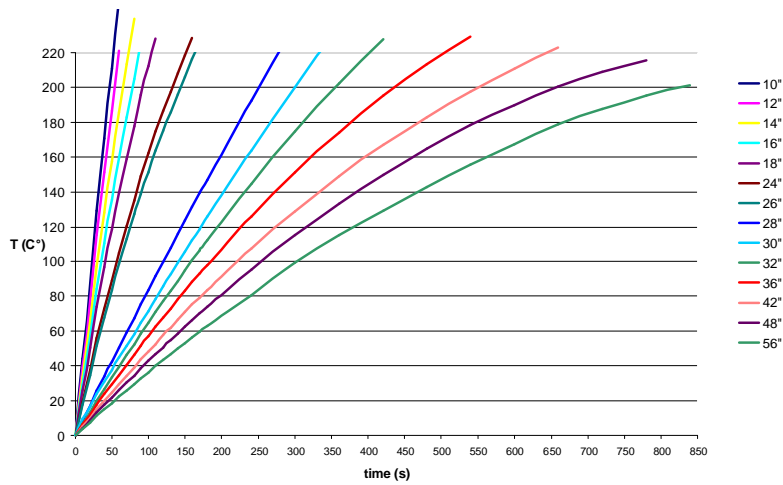
STANDARD COILS

FOR

- Welding preheating
- Mod. HW
- Mod. FE
- Mod. F
- Joint coating preheating
- Mod. H
- Mod. HM
- Mod. HA
- Heat treatment (PWHT)
- Mod. M
- Mod. HT
- Localize demagnetization
- Mod. M
- Mod. HW



**Typical performances of DELTA50 in normal environmental conditions**



**DELTA 50** generator comes from **Parmaprogetti's** long experience in induction heating. As all its new-built static generators, **DELTA 50 automatically adjust its electric parameters** in order to have the maximum performance, regardless of the kind of pipe, set up and cables length.

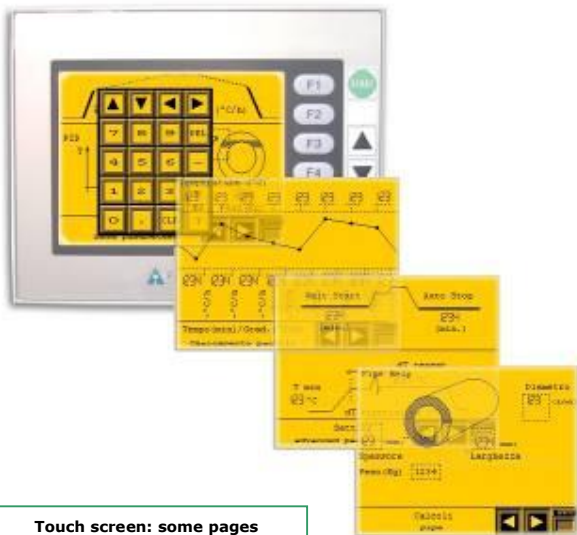
**Performance examples:** in normal environmental conditions and with a good insulation, **DELTA 50** heats an area of 300 mm of a 24" pipe, thickness 11,5 mm, to 150°C in about **2 minutes**, and the same area of a 48" pipe, thickness 25 mm, to 150°C in about 8 minutes.

**SIMPLE AND GUIDED PROGRAMMING**

The control panel (touch screen) visualizes all parameters and allows to set all heating programs easily.

For examples:

- **For welding preheating:**
  - Heating in a set time
  - Heating at a set and constant temperature through thermocouple
  - Heating with a programmed cycle through thermocouple
- **For PWHT**
  - Free heating at a set and constant temperature through thermocouple
  - Heating, through thermocouple, with a programmed cycle made of one or more segments of heating, stasis and cooling periods



Touch screen: some pages

**In heating cycles**  
 The program helps the operator to choose the more suitable parameters for pipe dimensions and, in case of interruption of the main voltage, it automatically acts to restore the heating treatment.  
 Every cycle can be saved and used for prints and/or statistics.

**OUR INDUCTION HEATING GENERATORS HAVE BEEN EMPLOYED IN MANY PROJECTS:**

- 1991 Pipeline Rome-Bologna
- 1992 Pipeline Algeria-Italy
- 1993 Pipeline Sicily-Calabria
- 1994 Pipeline Passirano  
Indian Pipeline  
PGUP 111-Malaysia
- 1995 Montodine  
Pipeline Vasconia-Covenas Colombia  
Sicily- Pace Del Mela
- 1996 Castoro 5  
Pipe-Barge set up
- 1997 Castoro 5  
Pipe-Barge set up
- 1998 Pipe-Barge Israfil Guseino V"rr25" set up
- 1999 "J" Lay Project Saipem 7000
- 2000 Blue Stream
- 2002 Indonesia Project
- 2003 BS Gas Upstream "Yolla"  
Greenstream SPA LGTS  
S. Indonesia Peciko Project  
TSEP Woodside Australian  
Khoramshahr/Free Zone  
Petropars South Pars



**"J" Lay Project  
Saipem 7000  
North Sea**



**GIANO generators  
(500 KW)  
Castoro 12  
Mar Caspio**

- 2004 Pipe-Barge Crawler set up  
Naoc Rumuji Bonny Island Nigeria  
Castoro 10  
Castoro 2  
Eni Div. Agip Naide Jacket  
S. AIA Bongkot  
Baju darwin Pipeline  
BB C2 Sakhalin Sealines  
S. Asia Sealine  
Tblisi Georgia AGT Pipeline Project
- 2005 Pipel Layer Barge Kashagan  
S.CML SMC1 Sakhalin PH2  
Dolphin Energy  
Norsk H. Ormen Lang Norvegia  
Allestimento Pipe-Barge Castoro 8  
Saipem Asia  
Sukl Sakhalin PH2  
Pipe-Barge Castoro 2 set up  
INAGIP IKA IDA Ivana Pjt
- 2006 Norsk H. Ormen Lang Norway  
Pipe-Barge Castoro 12 set up  
Pipe-Barge Semac 1 set up

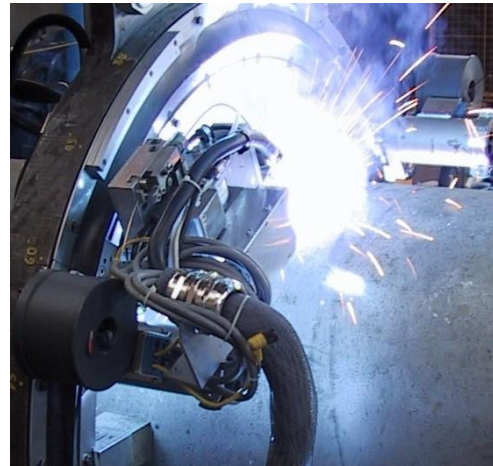
**OTHERS PARMAPROGETTI'S ACTIVITIES**

Since 1989 **Parmaprogetti S.r.l.** has produced a wide range of equipment and accessories for induction heating and for resistance heating of welded joints.

Our static generators (Inverters) have a leading position in the field and are employed on pipe-barges and many other applications: pipe coating, heat treatments of high thicked pipes, fusion etc.

**Parmaprogetti** is always investing in innovation and in the development of new products, as special welding systems patented and completely automated, with MIG and PTA technique.

**Parmaprogetti** equipment successfully operate in all the areas of the world. The company offers sale, renting, service, assistance and qualified consulting.



Automatic external pipe welding



Pipe coupler with automatic internal welding



Heat treatment for stretch welding through electric resistances



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