

# ProHeat™ 35

## Liquid-Cooled Induction System

Induction Heating System 

### Quick Specs

#### Applications

Process piping  
Refinery  
Petrochemical  
Power piping  
Pressure vessels  
Structural

#### Maximum Preheat Temperature

1,450°F (788°C)

#### Input Power

460–575 V, 3-phase, 60 Hz  
400–460 V, 3-phase, 50/60 Hz

#### Input Amperes at Rated Output

400 V: 60 amps  
460 V: 50 amps  
575 V: 40 amps

#### Rated Output

35 kW at 100% duty cycle

#### Power Source Dimensions

H: 27.5 in. (699 mm)  
W: 21.75 in. (552 mm)  
D: 36.75 in. (933 mm)

#### Power Source Weight

Net: 227 lb. (103 kg) Ship: 265 lb. (120 kg)

### Powering a heating revolution – for preheat applications up to 1,450 degrees Fahrenheit (788°C).

The ProHeat 35 liquid-cooled induction heating system provides a highly versatile tool for preheating, stress relieving, hydrogen bake out, post weld heat treat and shrink fit in a variety of pipe diameters and flat plate.

Designed with flexibility in mind, the ProHeat liquid-cooled induction heating cables can be wrapped into coils of various shapes and sizes to fit almost any induction heating application. Great for applications with geometries and temperatures that prevent the use of air-cooled blankets.



ProHeat liquid-cooled induction heating cable shown.



**Improved working environment** is created during welding. Welders are not exposed to open flame, explosive gases and hot elements associated with fuel gas heating and resistance heating.

**Easy setup** is achieved using flexible heating cables combined with user-friendly insulation blankets.

**On-board temperature control** provides for manual or temperature based programming in a simple-to-learn operator interface.

**Uniform heating** is maintained along and through the heat zone by using induction heat within the material. The surface of the part is not marred by localized conducted heat at higher than specified temperatures.

**Time-to-temperature** is faster than conventional processes due to the method of applying heat, reducing cycle time.

ProHeat 35 power source shown with heavy-duty induction cooler (951686) and optional running gear (195436).



**Miller Electric Mfg. Co.**  
An ITW Welding Company  
1635 West Spencer Street  
P.O. Box 1079  
Appleton, WI 54912-1079 USA

**Equipment Sales US and Canada**  
Phone: 866-931-9730  
FAX: 800-637-2315  
International Phone: 920-735-4554  
International FAX: 920-735-4125

**MillerWelds.com**  
    



# ProHeat™ 35 Liquid-Cooled System

## ProHeat 35 Power Source

**907689** 460–575 V

**907690** 400–460 V, CE

The ProHeat 35 induction power source is equipped with a built-in temperature controller allowing for manual or temperature-based programming using up to four control thermocouples. At more than 90 percent efficiency, the ProHeat 35 power source transfers more energy to the part, reducing operating costs over different heating methods. One ProHeat 35 power source has two outputs and can run one or two heating cables at a time.

*Note: Primary input cable and strain relief not included.*

## Digital Recorder

**195374** 6 channel

**300698** 12 channel

The digital recorder is commonly used in stress relieving and critical preheat applications. The recorder stores temperature data based on time. It is not required to perform successful heating applications.

## Heavy-Duty Induction Cooler

**951686** Cooler with coolant (US and Canada only)

**301298** Cooler only (not available in US and Canada)

Optimized for induction heating applications, cooler features a 2.5-gallon rustproof polyethylene tank, high-pressure pump and blower to yield a high cooling capacity.

## Running Gear

**195436**

Running gear adds to the portability of the system. The four 5-inch swivel casters with brakes mount to the bottom of the power source or cooler.

## Thermocouple

### Extension Cable

**194968** 50 ft. (15.2 m)

**300998** 75 ft. (30.5 m)

A simple means of providing thermocouple inputs from the heated part to the power source. The durable cable eliminates the cluttered stringing of individual wires to the work. The terminal connection enables six thermocouples to be used with the system.

## Post Weld Heat Treatment Blanket

Fifty thermal cycles or more per blanket reduces consumable costs compared to other heating methods. Blanket

efficiently insulates and optimizes coupling distance between the coil and the workpiece while protecting the liquid-cooled cable. Fully enclosed, sewn blanket eliminates dust for a better work environment. See ordering information on the back page for available sizes.



## Temperature Measurement

**194999** Thermocouple wire, 500 ft. (152 m)

**195098** Thermocouple connectors (10 pack)

**194959** Thermocouple attachment unit (not shown)

Thermocouples welded directly on the part being heated are the most accurate way of monitoring part temperature for recording and controlling the heating process.

## ProHeat™ 35 Air-Cooled Induction System (Continued)



### Liquid-Cooled Heating Cable

- 300045** 30 ft. (9.1 m)
- 300046** 50 ft. (15.2 m)
- 300047** 80 ft. (24.4 m)
- 300049** 140 ft. (42.7 m)
- 300566** 160 ft. (48.8 m)

The heating cable couples the power to the part to be heated. The silicone hose encloses a special copper conductor specifically designed for carrying high-frequency current to maximize efficiency. The hose also carries the coolant which cools the conducting wire. The hose is reinforced for strength and durability.



### Output Extension Cable

- 300180** 10 ft. (3 m)
- 195402** 25 ft. (7.6 m)
- 195403** 50 ft. (15.2 m)
- 300598** 75 ft. (22.9 m)

The output extension cable connects the liquid-cooled heating cable to the power source. Two quick connect coolant jumpers are included with each cable.

## Additional Accessories



### Contact Thermocouple Sensor (Probe) 200202

Contact thermocouple sensor installed between the

insulation and the part being heated. The contact thermocouple sensor can be used in preheat applications up to 500 degrees Fahrenheit (260°C).



### Preheat Cable Cover

- 204611** 30 ft. (9.1 m)
- 204614** 50 ft. (15.2 m)
- 204620** 80 ft. (24.4 m)

Used in preheat applications to protect the heating cable from slag and molten metal created during welding. The 1/2-inch thick preheat insulation must be used with the preheat cable covers.



### Preheat Insulation

For preheat applications up to 600 degrees Fahrenheit (316°C). Designed to protect the liquid-cooled cable from high temperatures and maintain the optimum coupling distance between the coil and the work. The preheat insulation is 1/2-inch thick and can be cut to length to fit your application. See ordering information on the back page for available sizes.



### Preheat Insulation with Cable Harness 301334

Liquid-cooled heating cable coils of various sizes can be attached directly to this preheat insulation. Once a coil is set up it can easily be moved from part to part reducing setup times. The insulation is 10-foot (3 m) long and can be cut to length to fit your application. Heating cable not included.



### Remote Contactor Control 043932

Remotely start and stop the heating process with this wired rocker switch remote. Includes a 25-foot (7.6 m) cable.




### RHC-14 Remote Hand Control

- 242211020** 20 ft. (6 m)

- 242211100** 100 ft. (30.5 m)

Remotely adjust the heat output of the system in manual mode as well as start and stop the heating process.

## Specifications (Subject to change without notice.)

Input Power	Ambient Temperature Range		Rated Output	Input Amperes at Rated Output	KVA/KW at Rated Output	Dimensions	Weight
	Storage	Usage					
460–575 V, 3-phase, 60 Hz 	-40 to 131°F (-40 to 55°C)	4 to 131°F (-15 to 55°C)	35 kW at 100% duty cycle	50 A, 460 V 40 A, 575 V	39/37	H: 27.5 in. (699 mm) W: 21.75 in. (552 mm) D: 36.75 in. (933 mm)	Net: 227 lb. (103 kg) Ship: 265 lb. (120 kg)
400–460 V, 3-phase, 50/60 Hz, <b>CE</b>				60 A, 400 V 50 A, 460 V			

 Certified by Canadian Standards Association to both the Canadian and U.S. Standards.

 Manufactured and certified in accordance with IEC-60974-1, -10.



## Ordering Information

Equipment and Options	Stock No.	Description	Qty.	Price
<b>ProHeat™ 35</b>	<b>907689</b> <b>907690</b>	460–575 V, 3-phase, 60 Hz, 35 kW power source 400–460 V, 3-phase, 50/60 Hz, 35 kW power source, <b>CE</b>		
Heavy-Duty Induction Cooler	<b>951686</b> <b>301298</b>	Cooler with coolant (US and Canada only) Cooler only (not available in US and Canada)		
Coolant	<b>043810</b>	One gallon of low-conductivity coolant. Must be ordered in multiples of four (one case)		
Digital Recorder with Protective Enclosure	<b>195374</b> <b>300698</b>	6 channel, includes temperature output cable 12 channel, includes temperature output cable		
Running Gear	<b>195436</b>	Attaches to bottom of power source or cooler		
Digital Recorder with Protective Enclosure	<b>195374</b> <b>300698</b>	6 channel, includes temperature output cable 12 channel, includes temperature output cable		
Interconnect Cable	<b>300268</b>	Temperature output, 5 ft. (1.5 m), used with customer-supplied recorder		
Thermocouple Wire	<b>194999</b>	Type K thermocouple wire, 500 ft. (152 m)		
Thermocouple Connectors	<b>195098</b>	Type K, 2-pin male (package of 10)		
Thermocouple Attachment Unit	<b>194959</b>	Used for welding thermocouples to part being heated		
Contact Thermocouple Sensor (Probe)	<b>200202</b>	Contact thermocouple sensor. 500°F (260°C) max		
Thermocouple Extension	<b>194968</b> <b>300998</b> <b>200201</b>	Cable, ext, 6 pair type K, 50 ft. (15.2 m) Cable, ext, 6 pair type K, 75 ft. (22.9 m) Cable, ext, 1 TC type K, 25 ft. (7.6 m) armored		
Output Extension Cable		See page 3		
Coolant Jumper	<b>204877</b>	Extension cable to heating cable coolant jumper (package of 1)		
Liquid-Cooled Heating Cable		See page 3		
Preheat Cable Cover		See page 3		
Preheat Insulation	<b>204669</b> <b>195376</b> <b>211474</b> <b>301334</b>	1/2 x 6 x 120 in. (1.3 x 15 x 305 cm) 1/2 x 6 x 240 in. (1.3 x 15 x 305 cm) 1/2 x 12 x 120 in. (1.3 x 31 x 305 cm) Preheat insulation with cable harness, 1/2 x 16 x 120 in. (1.3 x 41 x 305 cm)		
High-Temperature Rope	<b>194965</b>	1 in. (2.5 cm) wide, 50 ft. (15.2 m) roll		
Post Weld Heat Treatment Blanket	<b>194947</b> <b>194948</b> <b>195477</b> <b>194949</b> <b>195476</b> <b>194950</b> <b>194951</b> <b>194952</b> <b>194953</b> <b>194954</b> <b>194955</b> <b>194956</b> <b>300449</b> <b>194957</b> <b>194958</b> <b>195502</b> <b>194998</b> <b>207817</b> <b>222228</b> <b>300155</b> <b>300156</b>	For 2.5 in. (6.4 cm) pipe, 12 x 15 in. (31 cm x 38 cm) For 4 in. (10 cm) pipe, 12 x 21 in. (31 cm x 53 cm) For 5 in. (13 cm) pipe, 12 x 26 in. (31 cm x 66 cm) For 6 in. (15 cm) pipe, 12 x 30 in. (31 cm x 76 cm) For 7 in. (18 cm) pipe, 18 x 34 in. (46 cm x 86 cm) For 8 in. (20 cm) pipe, 18 x 38 in. (46 cm x 97 cm) For 10 in. (25 cm) pipe, 18 x 43 in. (46 cm x 109 cm) For 12 in. (31 cm) pipe, 18 x 49 in. (46 cm x 125 cm) For 14 in. (36 cm) pipe, 18 x 54 in. (46 cm x 137 cm) For 16 in. (41 cm) pipe, 18 x 58 in. (46 cm x 147 cm) For 18 in. (46 cm) pipe, 24 x 67 in. (61 cm x 170 cm) For 20 in. (51 cm) pipe, 24 x 73 in. (61 cm x 185 cm) For 21 in. (56 cm) pipe, 24 x 76 in. (61 cm x 193 cm) For 22 in. (56 cm) pipe, 24 x 79 in. (61 cm x 201 cm) For 24 in. (61 cm) pipe, 24 x 85 in. (61 cm x 216 cm) For 26 in. (66 cm) pipe, 24 x 91 in. (61 cm x 231 cm) For 28 in. (71 cm) pipe, 24 x 98 in. (61 cm x 249 cm) For 30 in. (76 cm) pipe, 24 x 105 in. (61 cm x 267 cm) For 32 in. (81 cm) pipe, 24 x 112 in. (61 cm x 285 cm) For 36 in. (91 cm) pipe, 24 x 126 in. (61 cm x 320 cm) For 40 in. (102 cm) pipe, 24 x 140 in. (61 cm x 356 cm)		
Remote Contactor Control	<b>043932</b>	25 ft. (7.6 m) wired remote on/off for power source		
RHC-14 Remote Hand Control	<b>242211020</b> <b>242211100</b>	20 ft. (6 m) wired remote for heat and on/off for power source 100 ft. (30.5 m) wired remote for heat and on/off for power source		

Date:

Total Quoted Price:

Distributed by:

