



ProTHERMIC™

PROTON
PRODUCTS

PH Series Wire Preheater

INTRODUCTION

The ProTHERMIC™ PH Series are a comprehensive range of High Frequency induction Preheaters featuring the latest advanced High Frequency solid state technology. Wire preheating is an essential operation to achieve elimination of wire moisture, improve stripping characteristics, and avoid pin hole and bare patch faults.

The shorting pulley rim is manufactured from a special copper alloy that has high electrical conductivity and good wear resistance. The insulating pulley is manufactured from resin bonded fabric which has good wear resistance and low thermal conductivity to minimise wire-to-pulley heat loss.

The pulleys are mounted on low friction, double row ball bearings to minimise the drag force (tension increase) on the wire as it passes through the preheater. Both pulleys are precision machined to ensure that uniform tension is applied to the wire, thus reducing SRL problems in data and telecommunications cable applications.

The preheater is powered from a 3-phase mains input, which is converted to a high-frequency supply by a specially designed inverter, the output of which is automatically adjusted to deliver the necessary power to maintain the required "Preset Temperature" regardless of wire size or production speed.

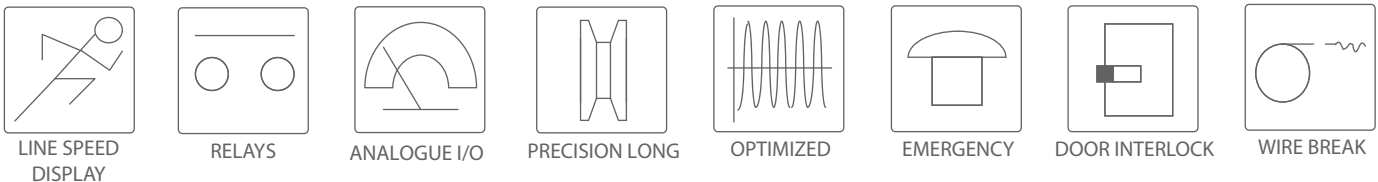
The preheater is fully protected against mains supply phase loss or brownouts.

PH300 Series



∴ Data Sheet ∴

FEATURES



TECHNOLOGY

Advanced Frequency Control

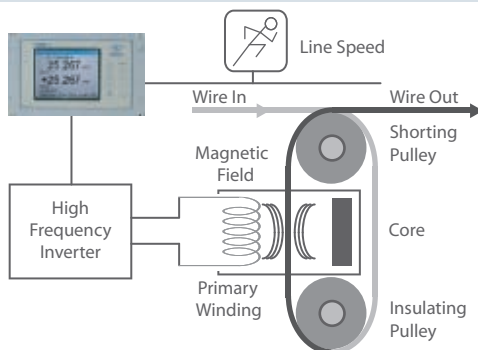
V = Heating Loop Voltage, required to dissipate the power required

P = Power in Watts, required to heat the wire

R = Resistance of Wire or Conductor within the heating loop

$V = \sqrt{P \times R}$ Where $P \times R = \Delta T \times \text{Speed} \times K$









$V = \sqrt{\Delta T \cdot \text{Speed} \cdot K}$



BENEFITS

- High Frequency Heating
- Advanced Frequency Control Technology
- Optimum Heating Cycle
- Consistent Conductor Temperature
- Precision Pulley and Bearing Assembly
- Hardened Pulley Surface for Long Life
- Wire Break Detection
- Line Speed, Voltage and Current Display
- Compact Design
- Digital Communication
- Door Interlocking and Emergency Stop

SPECIFICATIONS

Model	PH100 Series	PH160 Series	PH300 Series	PH360 Series	PH450 Series	PH600 Series
Pulley root diameter	100mm (3.94")	155mm (6.10")	294mm (11.58")	325mm (6.10")	450mm (17.72")	593mm (23.35")
Solid Wire diameter Maximum	1mm	1.7mm	3mm	6mm	4.5mm	6mm
Solid Wire diameter Minimum	0.1mm	0.3mm	0.5mm	0.5mm	1mm	2.5mm
diameter	1mm	1.95mm	3.2mm	6.2mm	5.64mm	6.8mm
Stranded wire cross-sectional area	0.8mm ²	3mm ²	8mm ²	30mm ²	25mm ²	36mm ²
Wire preheat temperature	200℃	200℃	200℃	200℃	200℃	200℃
Induction frequency	2500Hz	1469Hz	1469Hz	1469Hz	1469Hz	1469Hz
Continuous wire tension	470N	470N	530N	530N	2005N	5231N
Wire direction	Bidirectional	Bidirectional	Bidirectional	Bidirectional	Left-to-right or right-to-left	Bidirectional (left-to-right or right-to-left)
Wire material	Copper/Aluminium/Copper-clad/Special					
Wire line height	980(minimum) / 1000(typical) / 1020mm(maximum)					
Operating temperature	+5 ~ +45℃ (41°F - 113°F)					
Ingress protection (wire entry/exit areas and pulley comparten only)	IP53					
Maximum Power supply frequency	65Hz	65Hz	65Hz	65Hz	65Hz	65Hz
Minimum Power supply frequency	47Hz	47Hz	47Hz	47Hz	47Hz	47Hz
Weight	TBA	290 kg (639lb)	360 kg (794lb)	500 kg (1102lb)	1300kg (2865lb)	
Standard Interfaces						
4 x Logic inputs	Solenoid door / Emergency stop / Start Preheating / Stop Preheating (Max. input voltage +24V)					
4 x Relay outputs	Fault / State / Auxiliary / Emergency stop (Isolated Contact, max. rating : 50Vdc/30Vac/0.5A)					
4 x Analogue outputs	User programmable					
Remote Temperature set input	Temperature Control input					
Control(FB) Temperature input	Temperature feedback input					
	0 to +10V, user scalable					
Communications Interfaces	CAN-bus; I-Bus; RS232, RS422/RS485, Ethernet					
Optional Interfaces	       					
Communications Interfaces	ProfiBus; ProfiNet, DeviceNet, Ethernet IP, WiFi					

CONTROLLER FUNCTIONS

- Start & Stop Preheating
- Temperature Preset
- Multiple Languages
- Power Range Notification
- Line Speed, Current, Voltage Display
- Wire Break Indication
- Active Current Limit
- Product Menu
- Set Material Type
- Pulley Loss Power Compensation

GENERAL OPTIONS

- Twin Wire Applications
- Low Loss Pulley Set
- Range Switch
- Height Adjustable Plinth
- High Temperature Pulley Set

PH600 Series



PH450 Series



PH360 Series



PH160 Series



PH100 Series



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