

# Power Supply

## Induction Heating Technology

**Power Range:** 100kW – 750kW

**Frequency Range:** 1kHz – 50kHz

The MK11 is an energy efficient, voltage source inverter with a parallel-tuned output. This IGBT power supply offers a wide tuning range and is available in both local and remote heat station configurations. This simplifies integration into new systems or existing installations. Selectable output regulation modes include voltage, power or current.

### System Features Include:

- 10.4" Touchscreen HMI including resistive touch display
- IGBT Insulated Gate Bipolar Transistor modules
- Direct modern replacement for motor generator and SCR technology
- 96.7% conversion efficiency
- Power Factor 0.95 from 0 to 100% power
- Parallel tuned output circuit
- CVS Control Transformer protection against input power swells, sags, brownouts and waveform distortion
- Wide matching range capability
- Lockable molded case disconnect complete with under voltage trip coil
- 24 volt door interlock system with an externally accessible handle
- Single main control board within a separate lockable door for safe access
- Isolation output transformer
- Full height safety interlocked doors
- Single sided – front access for serviceability
- NEC and NFPA79 Wiring codes
- Heavy welded steel channel base with fork lift slots
- Precut access panels for power infeed and output

### Data Acquisition and Process Control Options:

- Additional remote I/O can be added to the power supply
- Chart recorder to monitor critical functions
- Energy monitoring
- Ground fault detection system designed to shut off the power unit in the event that a fault occurs

## MK11

### Features & Specifications



150kW – Size 1 cabinet



300kW – Size 2 cabinet



600kW – Size 3 cabinet



HMI Control Panel

**HMI Control Panel**  
The HMI Control Panel is ethernet enabled to facilitate factory communication.



Optional Remote Operator Panel

# Power Supply

## Operator Interface:

- 3 start-up screens
- Power, frequency and voltage displays in run mode
- Tank circuit tuning displays load and frequency
- Built-in non-intrusive diagnostics, monitoring and troubleshooting displays
- Fault and limit identification displays
- Fault log
- Status screens
- Interactive diagnostic prompt screens for fault and limit corrections
- 10 turn power level potentiometer

## Utilities:

- 95° F (35° C) maximum water inlet temperature
- Water inlet and outlet fittings on cabinet top
- Inlet and outlet pressure gauges with differential pressure safety switch
- Water temperature sensing fault circuits
- Power devices cooled by parallel cooling circuits
- Input power 480 V, 3Ø 50/60 Hz

## Optional Features:

- Remote operator's panel (local and remote)
- 4/20mA interface
- Integral or remote heat stations
- Ground fault detection circuitry
- Externally accessible Ethernet connection to monitor internal functions remotely
- CE and ETL certifications available
- Process fixturing, tooling and turnkey systems available
- Preventative maintenance and extended warranty programs available

Cabinet Specifications				
Cabinet Size	Height	Width	Depth	Weight
Size 1	85" (2160 mm)	36" (915 mm)	36" (915 mm)	1500 lb (680 kg)
Size 2	85" (2160 mm)	48" (1220 mm)	36" (915 mm)	1900 lb (862 kg)
Size 3	85" (2160 mm)	84" (2134 mm)	36" (915 mm)	2500 lb (1134 kg)

Performance Specifications	
Power Circuit	Voltage source, parallel tuned
Energy Conversion Efficiency	up to 96.7% (frequency dependent)
Input Power Factor	0.95
Output Regulation	Voltage, kW, or current(optional)
Regulation Accuracy	±1% with ±10% input voltage variation
Minimum Output	~ 10% of rated power
Ramp Up to 100% Output	70 milliseconds
Water Inlet Temperature (max)	95°F (35°C)
Power Requirements	480 V, 3 phase, 50/60 Hz

kW \ kHz	Cabinet Size								Utility Requirements			Heat Station
	1	3	10	25	50	1/3	3/10	10/25	kVA	Line Amps	Cooling Water (GPM/lps)	
100	1	1	1	1	1	-	1	1	111	133	15 / 0.95	Attached / External
150	1	1	1	1	2	-	1	1	167	200	15 / 0.95	Attached / External
200	2	2	2	2	2	-	2	2	222	267	25 / 1.58	Attached / External
250	2	2	2	2	3	-	2	2	278	333	25 / 1.58	Attached / External
300	2	2	2	2	3	-	2	2	333	400	25 / 1.58	Attached / External
400	3	3	3	3	3	3	3	3	444	534	40 / 2.52	Attached / External
500	3	3	3	3	-	3	3	3	555	666	40 / 2.52	Attached / External
600	3	3	3	3	-	3	3	3	666	800	40 / 2.52	Attached / External
750*	3	3	3	3	-	3	3	3	832	1,000	50 / 3.15	Attached / External

Specifications subject to change without notice.

\*575 Volt, 3-phase Input Voltage

### USA Headquarters

21905 Gateway Road  
Brookfield, WI 53045  
Phone: +1 262-317-5300  
Fax: 262-317-5353

### CANADA

333 Station Street  
Ajax, Ontario  
Canada L1S 1S3  
(905) 683-4980  
(905) 683-6550 (FAX)

### CHINA

Building A-1, No.59 Yuan Di Road  
Nanhui Industrial Zone  
Shanghai, China 201399  
(86) 21-68009546  
(86) 21-68009542 (FAX)

### ENGLAND

2 Dorset Road,  
Sattley Business Park  
Sattley, Birmingham B8 1 BG  
(44) 121 322 8000  
(44) 121 322 8080 (FAX)

### GERMANY

Ersheimer Str. 87  
69434 Hirschhorn, Germany  
(49) 62 72 92 17 500  
(49) 62 72 92 17 587 (FAX)

### JAPAN

1-6-35 Shinsuna  
N-Building, 7th Floor  
Koto-Ku, Tokyo, 136-0075 Japan  
(81) 33647 7661  
(81) 33647 7662 (FAX)

### KOREA, Seoul

Room #201, Dae-Ryuk Bldg, 103-9  
Guro-Dong, Guro-Ku, Seoul Korea  
(82) 2 837 2290  
(82) 2 837 2292 (FAX)

### MEXICO

Avenue Manantiales No. 11  
Esq. Acueducto  
Parque Industrial Bernardo Quintana  
El Marquez, Queretaro  
C P 76246 Mexico  
(52) 442 221 5415  
(52) 442 221 5090 (FAX)

Induction OEM for



[www.pillar.com](http://www.pillar.com)

