



## MAKE ENERGY+ SERIES INDUCTION MELTING FURNACE FEATURES.

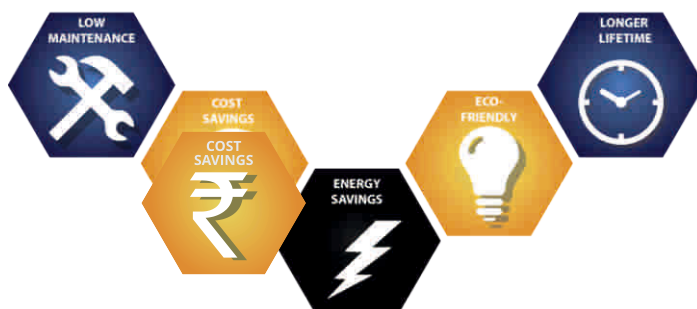


- Most efficient Advance IGBT technology based induction furnace.
- Power factor above 0.98 in all conditions.
- An Energy+ power source equipped with programmable logic control with colour touch screen HMI lowest power consumption in all configuration applications.
- Its computer control with graphical display of electrical power supply. Make it very user friendly.
- Automatic plant load (KVA) demand control system.
- Automatic sintering cycle programmable as per requirement.
- Digital controlled VF-VFI technology with 7<sup>th</sup> generation of IGBT based series inverter topology.
- IP65 dust proof Encloser with water chillier.
- System operational diagnostics.
- Energy consumption, lining wearing monitory & analyse.
- Lower maintenance costs & parts inventory.
- Fault history analyses on screen.
- Interface with plant network.
- Dedicated technical support on screen of induction furnace.
- Water flow temp & pressure safety interlocks.
- Capacitor protection system eliminates costly down time.
- All Electrical parameter of furnace on screen to monitor furnace performance.



## BENEFITS:

- Advance Semi conductors & rugged design with a 100% safety factor to ensure long service life.
- Built in protection from damage caused by electrical shocks.
- Lightning fast ac interrupter and over volt protection circuit improves protection.
- All units protected by a current limiting reactor & high speed circuit breakers.
- Higher productivity.
- Fastest melt rate with lower melting cost.
- Space saving due to compact design.
- Latest technology at a fair & competitive price minimum requirement of KVA demand.
- Rapid start up.
- Automatic full power response at any conditions from cold charge to fully molten metal at pouring time.



# ENERGY SERIES POWER SOURCE

## E-5/E-10/E-20

### STANDARD POWER RATING

25KW/50KW/100KW/150KW  
1KHz To 10KHz

### HOT POT SIZE

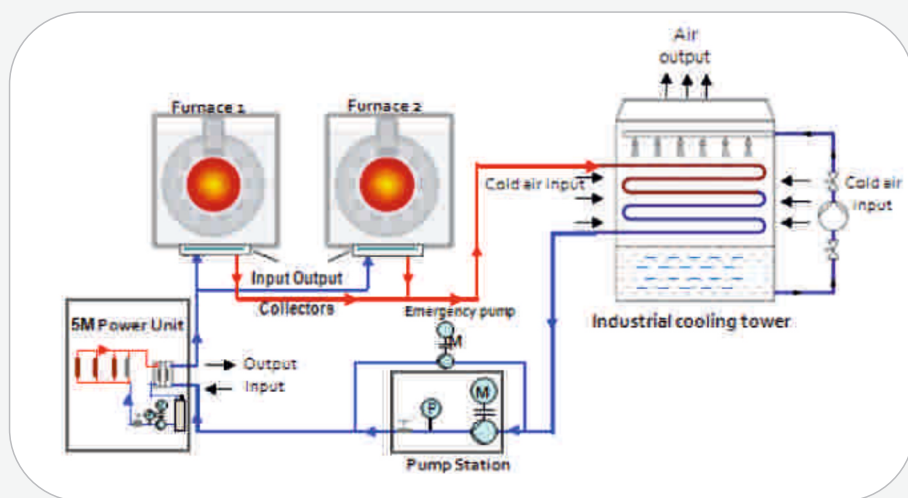
5 KG To 300KG

### MOLTEN METAL

ALL FERROUS AND NON-FERROUS

## APPLICATION:

- ✓ LABORATORY SAMPLING F/C
- ✓ FOUNDRY SECTOR
- ✓ INVESTMENT CASTING
- ✓ HIGH PRECISE METAL MELTING (GOLD,SILVER)
- ✓ MINING INDUSTRIES



### MELT RATE KG/HOUR

SIZE	STEEL @ 1650°C	IRON @ 1485°C
75 KW	112	125
100 KW	153	170
125 KW	195	216
150 KW	218	240

## CLOSED LOOP WATER SYSTEM

- The water cooling system comes as standard equipment to cool electronic components.
- Closed circuit construction prevents contamination by rust, dirt, and minerals, Dieoniser filter cartridge cleans up dirty ionized water.
- Conducting parts protected from corrosion, electrolysis, and inadequate cooling.
- Includes temperature monitoring. Available with evaporative or dry air coolers.
- Compact, easily replaceable, moulded water insulation panels cool high voltage components more reliably.

# ENERGY<sup>+</sup> SERIES POWER SOURCE

## E-30

### STANDARD POWER RATING

175KW/250KW/350KW/450KW  
1 KHz To 3 KHz

### HOT POT SIZE

150 KG To 1500KG

### MOLTEN METAL

ALL FERROUS AND NON-FERROUS

## APPLICATION:

- ✓ FOUNDRY SECTOR, CASTING
- ✓ INVESTMENT CASTING
- ✓ NON-FERROUS
- ✓ SMALL & LARGE CAPACITY INGOTS



### MELT RATE KG/HOUR

SIZE	STEEL @ 1650°C	IRON @ 1485°C
175 KW	290	322
250 KW	445	490
350 KW	650	700
450 KW	850	910



## LINING PUSH-OUT SYSTEMS FOR FURNACE

- Greatly reduces the labor and time required for periodic refractory lining changes.
- Uses a large, movable plug to push out the entire lining in minutes for easy disposal.
- Increase profitability and productivity.
- Improves working conditions.
- Reduces exposure of foundry personnel to refractory dusting.

# ENERGY<sup>+</sup> SERIES POWER SOURCE

## E-50

### STANDARD POWER RATING

550KW/750KW/1000KW/1250KW  
500Hz To 1KHz

### HOT POT SIZE

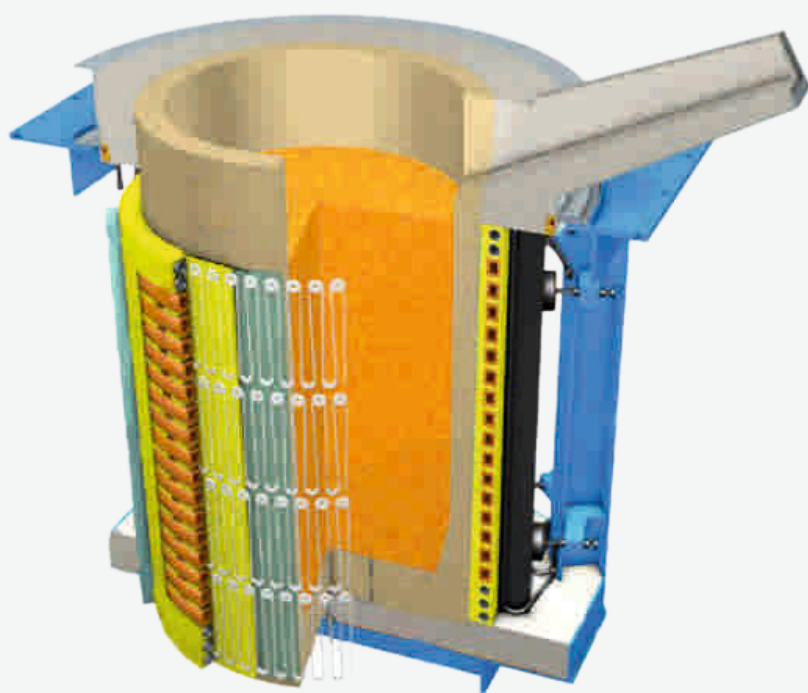
500KG To 3000KG

### MOLTEN METAL

ALL FERROUS AND NON-FERROUS

## APPLICATION:

- ✓ FOUNDRY SECTOR
- ✓ STEEL PLANT & ROLLING MILLS
- ✓ SMALL & LARGE CAPACITY INGOTS



### MELT RATE KG/HOUR

SIZE	STEEL @ 1650°C	IRON @ 1485°C
550KW	1025	1125
650KW	1170	1330
750KW	1400	1540
1000KW	1860	2060
1250KW	2330	2570

### ELECTROLYTIC CORROSION RESISTANCE COPPER COIL:

For large coreless furnace, Plasma Induction uses heavy wall extruded copper for free standing strength and rigidity. Each turn of the coil is supported by a number of heliarc welded studs bolted to vertical support posts to guard against mechanical vibration. No clamping is required and all joints are heliarc welded to guard against water leaks. Run outs tend to freeze against the coil face, preventing costly damages.



## **HOT POT:**

- Has a strong durable construction for long life castable.
- High strength reinforced refractory Top & Bottom.
- Heavy Rugged Supported by cast alloys structures.
- Due to heavy high pressure aluminum casted body create free magnetic path within the Hot Pot and that's why maximum efficiency provided.
- Hydraulic Hand Pump provided to an emergency in power failure.
- Easy, to maintenance & induction copper coil.
- Gear mechanism, hoist tilting Hydraulic operated tilting mechanism available.
- One, Two & Three melting hot pot with single power supply source.
- No any pedestal or ordinary bearing use. Heavy brass busing use for long life.
- Husky flat copper bus bars are used instead of tube bus bar to put maximum power into the metal.
- Steel frame structure for higher size Hot Pot.
- Fully captive electromagnetic flux containment system.
- Digital ground leak detector systems provide protection from shock to the operator & damages



## RECOMMENDED UTILITY

Power KW	Input Voltage	KVA Demand	Cooling Tower Lpm at 42 to 32°C at 28°C Wetbulb Temp	Pump Rating at 35mtr Head	Cable Size Of Cu/Alu Sq.mm
50 75	415 415	52 80	90 110	0.75Hp/70Lpm 1.0Hp/80Lpm	35/80 50/120
100 175	415 415	105 185	140 225	1.5Hp/100Lpm 1.5Hp/100Lpm	60/160 120/250
250 350	415 415	260 365	300 375	3Hp/150Lpm 3Hp/150Lpm	180/400 250/250x2
450 550	415 460	465 575	500 575	3Hp/150Lpm 4Hp/300Lpm	330/330x2 400/400x2
650 750	460 570	675 780	575 725	4Hp/300Lpm 4Hp/300Lpm	400/400x2 400/400x2
1000 1250	575 575x2	1040 1300	1150 1350	5Hp/350Lpm 5Hp/350Lpm	225x2/520x2 350x2/350x4
1500 2000	575x2 575x2	1575 2100	1550 2100	5Hp/350Lpm 6Hp/400Lpm	400x2/400x4 550x2/550x4



## LABORATORY PORTABLE HOT POT

- Single Uniform design for power supply & Hot Pot assembly.
- Hand operated manual mechanism.
- Suitable for ferrous & non ferrous metals including precious metals.
- Wide range of suitable parameters for different metal alloying.
- Provide heavy size of horizontal & vertical S.S tie roads ensure complete structure integrity.
- Higher size of pure copper rope use into the power cable.
- D.M water circulation into the power cable to reduce water flow restriction & long life.
- Provide push and lining systems.



# SPARES

- Heavy Duty & Customized Hydraulic Power pack.
- Compact & Rugged DM water circulation unit.
- High Frequency Power change Over switch.
- High Frequency Water cooled & conduction cooled capacitors.
- Water cooled High Frequency Power cable.
- D.C Choke for High Ripple D.C Current Filtering.
- Heavy Duty Side And Bottom Lining Vibrators.
- Power Semiconductor Component.

