



# InductoForge™

**Modular Induction Heating Systems for the Forging Industry**

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# InductoForge™

Designed to fit the flexible manufacturing requirements of today's forge shop



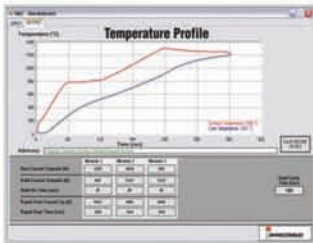
Inductoheat's new InductoForge™ modular billet heating system is a revolutionary product for the forging industry. The flexible modular design allows the forge shop to assemble an induction system that exactly matches its application requirements by allowing the addition or subtraction of power modules for future production needs.



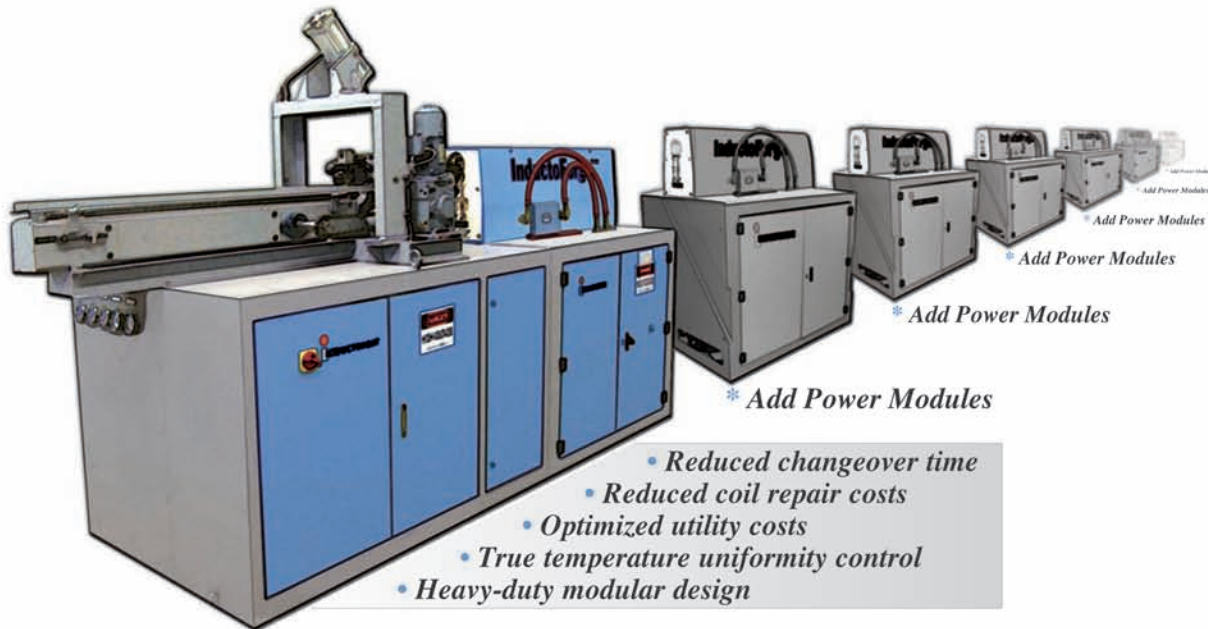
The InductoForge™ system uses power modules that are capable of running at wide range of frequencies with minimal change: (500Hz to 6000Hz). Each module is individually controlled resulting in a much finer and more accurate control of the billet temperature.



High efficiency is achieved through specialized induction coil design and minimal transmission bus. The heavy-duty, single size forging coil consists of cast end boards, copper windings and long-life removable liner for heating a wide range of billet diameters.



Inductoheat designed the IHAZ Temperature Profile Modeling computer program to set up an advanced temperature control for the InductoForge Billet Heater. IHAZ can be used to customize the billet temperature profile (Induction Heat Affected Zone) to best suit the application. IHAZ generates the optimum-running parameters and set points for Standby and Rapid Start which are stored as a recipe in the billet heater's PLC.



- Reduced changeover time
- Reduced coil repair costs
- Optimized utility costs
- True temperature uniformity control
- Heavy-duty modular design

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## Heavy-duty material handling and state of the art controls

**Infeed Systems** – Heavy Duty InductoForge™ Pinch Roll and Tractor Chain drive infeed systems push the billets through the InductoForge coil line at a very accurate rate controlled by a variable frequency AC motor. Both systems automatically adjust for the diameter of the billet (for quick change-over). A lost motion detector will automatically shut down power to the system if the billets stop moving for any reason.



**Hot Billet Extraction** – The InductoForge™ Billet Fastextractor™ is manufactured to provide many years of low maintenance operation. Heavy-duty, multi-strand chain works with the gravity pinch wheel to quickly extract parts to insure uniform heating from the front to the back of the billet (also acting as a weld breaker). The Fastextractor™ comes standard with an infrared temperature activated accept/reject system. An optional over/under temperature gate can be added.



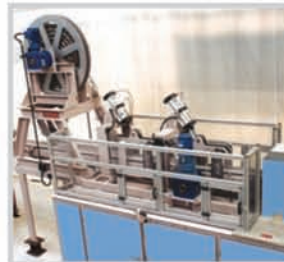
**Automatic Billet Feed** – Heavy-Duty InductoForge step feeders, bowl feeders, feeder loaders and bin tippers can be added to increase the productivity of the heater by automatically feeding billets from a bin into the coil line. An optional billet weigh system rejects parts that do not meet the acceptable weight range.



**Control Systems** – The PLC “Recipe Control” system works in conjunction with the IHAZ Temperature Profile Modeling computer software to make the billet heater simple to run. The operator can access stored recipes from the part number or die number identifier. The billet heater operating parameters are stored in the recipe, together they run the system, thus improving quality control and speeding up the system set up. A true “stopped line” Standby system is available for two or more module systems. Manual operation is available for the smaller InductoForge billet heating systems.

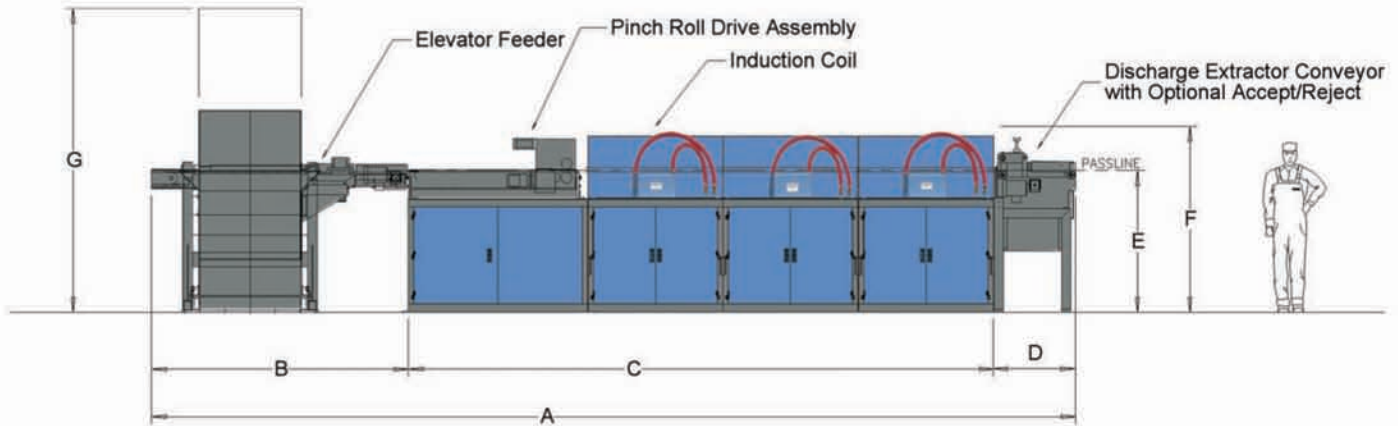


**Productivity Enhancements** – Optional billet push-out chains or bars and coil shuttles can be included. The billet push out chain allows almost all of the billets in the line to be heated. The coil shuttle provides a quick method of switching to a different coil size or to a backup coil.



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## Modular induction heating systems for the forging industry



### Specifications:

	Model	Max. Rate lbs/hr (kg/hr)	Input kVA (@Max. kW)	Cooling Water gpm (lpm)	PHYSICAL DIMENSIONS -inches (mm)						Weight lbs. (kg)	
					A	B	C	D	E	F		G
1 Module	1.65 TPH	3300 (1500)	580	70 (264)	310 (7880)	112 (2844)	138 (3505)	60 (1500)	60 (1525)	75 (1905)	142 (3600)	3000 (1360)
2 Module	3 TPH	6000 (2700)	1160	135 (511)	370 (9400)	112 (2844)	198 (5030)	60 (1500)	60 (1525)	75 (1905)	142 (3600)	5000 (2270)
3 Module	5 TPH	10000 (4540)	1745	200 (757)	470 (11940)	135 (3429)	275 (6985)	60 (1500)	60 (1525)	75 (1905)	142 (3600)	7000 (3175)
4 Module	6.5 TPH	13200 (6000)	2330	270 (1022)	530 (13460)	135 (3429)	335 (8500)	60 (1500)	60 (1525)	75 (1905)	142 (3600)	9000 (4080)
5 Module	8.25 TPH	16500 (7500)	2910	340 (1290)	590 (14990)	135 (3429)	400 (10160)	60 (1500)	60 (1525)	75 (1905)	142 (3600)	11000 (5000)
6 Module	11 TPH	22000 (10000)	4075	410 (1550)	665 (16890)	135 (3429)	440 (11940)	60 (1500)	60 (1525)	75 (1905)	142 (3600)	13000 (5900)

\*Additional modules can be added as needed

\*Specifications subject to change without notice.

Note 1- Based on heating carbon steel from 70 to 2250°F (20 to 1230°C)  
 Note 2- 480 V, 3ph, 60Hz input  
 Note 3- All induction heating systems must have an isolation transformer  
 Note 4- Optional 12 Pulse connection is available  
 Note 5- 95°F (36° C) Max. inlet water temperature

Note 6- Output frequency- 500Hz, 1000Hz, 6000Hz, 1000/3000Hz  
 Note 7- Max. single pod kW for 6000Hz is 300kW  
 Note 8- Weight includes modules, coil and control/water cabinet  
 (does not include step feeder and bin tipper)  
 Note 9- Max. rate is dependent on part size and coil design

### Other forging capabilities from the Inductotherm Group:

- Bar heating for hot shear and hot forming - up to 7000kW
- Bar end heating (including robotic load and unload)
- Warm forming and graphite coating preheat



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 Production Systems for the Metals & Materials Industry Worldwide.