

# LPR Global

# Brazing and Heat Treatment Furnace

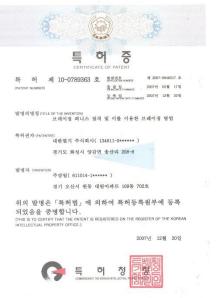
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Contents	Page
Patents and Certificates	3
Continuous Brazing Furnace for Aluminum parts	
Radiation type Brazing Furnace	5
Convection Preheating Furnace	6
Batch Type Brazing Furnace	7
Stainless and Steel Brazing Furnace- Mesh Belt	8
Roller Hearth Furnace Annealing Furnace   Bright Annealing	11
Heat Treatment Furnace for Bolts and Nuts	13
Past Clients	15

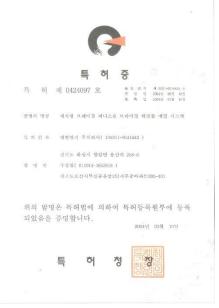
#### **Patents**



**Product protective Heat** treatment furnace No.10-1418320



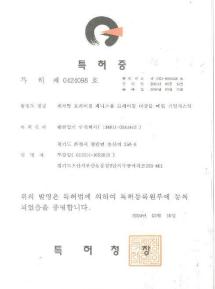
**Brazing Furnace and Assoc. Brazing technology** No. 10-0789363



**Preheating system for Batch** type brazing furnace No.0424097



Transporting system for Batch type brazing furnace No.0424096



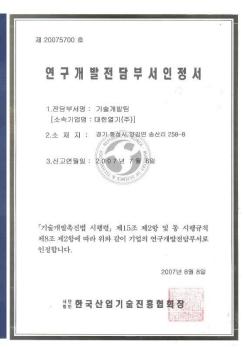
Main heating system for batch type brazing furnace No.0424098



Batch type brazing furnace No. 0424095

#### Certificates





Certification of Quality Management System ISO9001:2000/KS A 9001:2001 No. DKQ-5291 Certification of Registration ISO 9001:2000/ KS A 9001:2000 No CI/2915 Certification of Dedicated Research and Development



#### 실용신안등록증



원부에 등록되었음을 증명합니다.

2001년 11월 19일

्र **ड्रिकेट** अप्रकारक हम्बर्गां अस्तान्त्र तम् व्यक्तिक व्यक्तिक व्यक्तिक स्थानिक स्

Utility Model Registration for Preheating system of Batch type Brazing Furnace No.0255893



#### 실용신안등록증

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고안의	명칭	배치형 브레이징 퍼니스용	- 브레이	기정	대상	물 메약	! 가	설 장:	4]
실용신역	간권자	대한열기 주식회사( 1348	11-0041	442	)				
		경기도 화성군 태안읍 반	월리 34	4-3	남양	빌딩 5	8		
H 6	자	주강인(611014-1652818	)						
		경기도오산시부산동운안2	다지주?	Fol	対日の	05-401			

위의 고안은 실용신안법에 의하여 실용신안등록 원부에 등록되었음을 증명합니다.

2001년 11월 19일



Utility Model Registration for Heating system of Batch type Brazing Furnace No.0255894



#### 실용신안등록증

능 종	- 제 0255891 호. 출원 변호 제 2001-0018883 호 중 원 및 2001년 00월 20월 중 쪽 일 2001년 11월 19월
교안의 기	정 배치형 브레이징 퍼니스 장치
실용신안	자 대한염기 주식회사( 134811-0041442 ) 경기도 화성군 배안을 반월리 344-3 남양별당 5중
교 안	자 주장일(611014-1652818) 경기도오산시부산동윤압2단지주중아파트205~401

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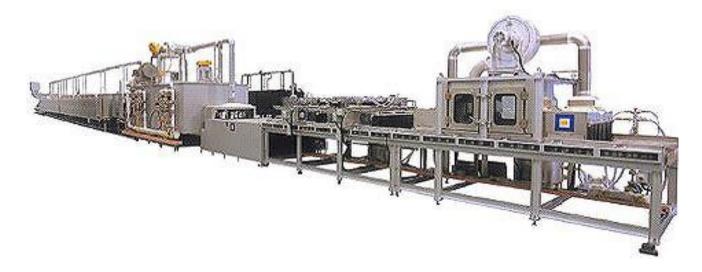
2001년 11월 19일

특 허 청 | 기계 |

이 싶음신안권은 실음선안님 제44조에 의거 실음선안임 제22조제2당에 의한 등록을기진정을 당자 아니만 장우에는 이 실음실안권의 설립자 등에 대하여 그 원의를 행사할 수 없습니다.

Utility Model Registration for Batch type Brazing Furnace No.0255894

#### Continuous Brazing Furnace for Aluminum parts



#### Brazing Furnace by Radiation

#### **Brazing Furnace | Radiation | Aluminum parts**

Radiation type brazing furnace produces continuous brazing process for aluminum based automotive parts. This brazing furnace operates with application of flux in the inert atmosphere and its continuous process provides high productivity.

#### Features:

Pure Atmosphere: Consumption of less atmosphere gas enables atmosphere to have high purity. As well, the brazing furnace can purge out impurities generated from work pieces and flux during the brazing process.

Resistant to Environmental influence: Entrance and exits are openable and accessible. But, Atmosphere shielding mechanisms are placed to tighten the atmosphere purity and make the brazing furnace resistant to external environment.

#### **Applications:**

Brazing heat exchangers for automobiles, radiators, condensers, aluminum- based parts for automobiles and electric apparatus. Continuous brazing of small to medium parts in high quantity.

#### 2 patents

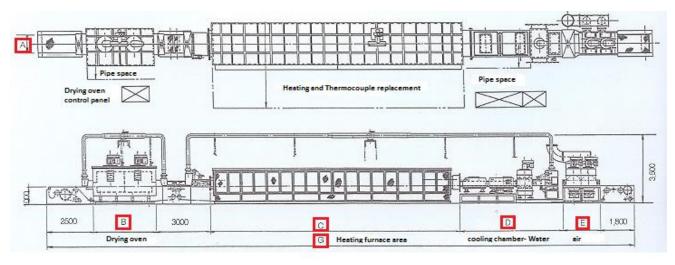
**Deformation Prevention of Muffle case** (US No.4416623, Japan No.1668238, and GB No. 2130348B)

Convection stream adjusting device for atmosphere gas flow (US No. 4586899, EC 84304752,3, Japan No. 59-099637)



#### Continuous Brazing Furnace for Aluminum parts

# **Brazing Furnace by Radiation Specifications:**



Model	Dimensions (mm)									
	Α	В	С	D	E F		G	Effective		
								Height		
MES-NOC-500	500	2500	7000	5100	1100	4900	23000	150	230KVA	
MES-NOC-750	750	5100	16000	7000	2000	5300	37400	150	450KVA	
MES-NOC-1000	1000	8200	23000	8400	3100	5700	50000	150	750KVA	

#### ■ Pre-heating Convection Furnace



Specifications are available upon request.

### Convection Furnace | Preheating

The Convection Furnace is suitable for pre heating metal parts before brazing. The furnace utilizes minimum length that is approximately half the length of regular furnaces.

Advantage of Convection Furnace is its ability to save space and energy. Its use of forced circulation within tight space allows rapid preheating process that also leads to Brazing process within shorter space.

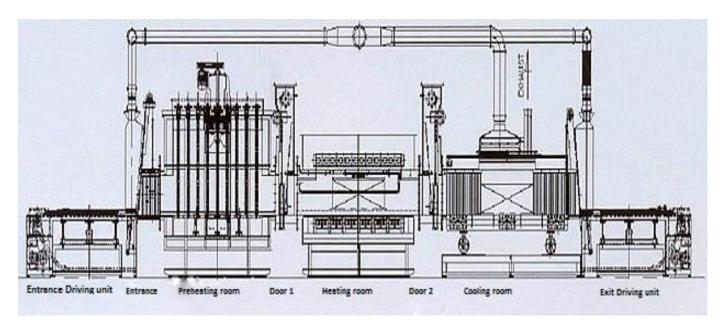
#### Batch type Brazing Furnace



#### **Batch Furnace | Brazing Large parts**

Our continuous-Batch furnace has three divisions linked with doors for preheating, brazing and cooling large sized aluminum parts like generators and heat exchangers. The Batch furnace is excellent to use within tight space.

**Applications:** Brazing of large parts for generator, aircrafts, ships, electronics, and heat exchanger.



#### Stainless Steel and Steel Brazing Furnace- Mesh Belt

#### **Stainless Steel Brazing Furnace**



#### **Stainless Steel Brazing Furnace | Mesh Belt Furnace**

This Brazing Furnace operates with mesh belt to maintain a continuous Brazing process of Stainless steel, copper alloys and other metals that require light atmosphere for their brazing process.

Mesh Belt Brazing Furnace can also be used for bright annealing. It's a double duty furnace that serves both of your needs.

#### **Features:**

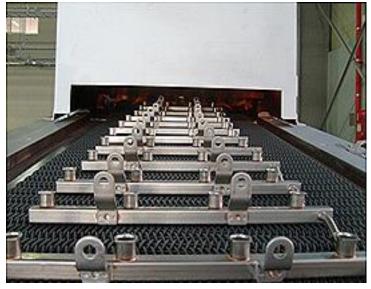
Stable Atmosphere in both Heating and Cooling sections Internal temperature Curve can be easily chosen. Mesh belt continuous process leads to High productivity. Cost Effective process due to use of light atmosphere (e.g. H<sub>2</sub> Gas)

#### **Applications:**

#### **Extensive applications**

Stainless steel, cooper based parts Brazing and/or bright annealing for Automotive parts





#### Stainless Steel and Steel Brazing Furnace- Mesh Belt

#### **Steel Brazing Furnace**



#### **Steel Brazing Furnace | Continuous and Energy Efficient**

This Brazing Furnace is used to braze ferrous and copper alloys as well as steel products. The use of embedded exothermic gas generator in the heating section of the Brazing Furnace effectively utilizes the heat and energy generated from the gas generator. Therefore, unlike other gas generators that need large volumes of water to cool down, wasting water and energy, our Brazing furnace saves Water and Energy.

#### Features:

Utilization of Energy generated from Gas generator save 35% to 50% of energy.

Furnace internal Atmosphere is very stable.

Internal temperature curve can be managed easily

#### **Applications:**

Used extensively and variously on the razing and Annealing of Copper, Iron, Steel and their alloys.



#### Stainless Steel and Steel Brazing Furnace- Mesh Belt

#### **Specifications:**

#### **Stainless Steel Brazing Furnace**

Mark	Electric Power (kw)							
Туре	Heating	Driving	Total					
HNP-SUB-200	50	0.6	50.6					
HNP-SUB-250	60	0.6	60.6					
HNP-SUB-300	75	0.6	75.6					
HNP-SUB-350	85	0.6	85.6					
HNP-SUB-400	105	0.6	105.6					
HNP-SUB-450	125	0.8	125.8					
HNP-SUB-500	160	0.8	160.8					

#### **Steel Brazing Furnace**

Mark Type	Effective Height (mm)	Heater Capacity (kw)	Electric Power (kw)	LPG Amount (kg)	DX-Gas Amount (㎡/Hr)	Capacity (kg/Hr)
MES-FES-250	150	55	60	5	35	45
MES-FES-300	150	70	75	5	40	60
MES-FES-350	150	80	85	6	45	70
MES-FES-400	150	100	105	7.5	50	85
MES-FES-450	150	120	125	7.5	55	110
MES-FES-500	150	140	145	10	60	125
MES-FES-600	150	170	174	10	70	165
MES-FES-750	150	210	220	11	90	210

#### Roller Hearth Furnace Annealing Furnace | Bright Annealing



#### **Roller Hearth Furnace | Annealing**

The embedded atmosphere gas generator to the furnace, allows this Roller Hearth Furnace to utilize/recycle energy generated from the atmosphere gas for its preheating process. This embedment saves 180kWh and decreases CO<sub>2</sub> output by 27% for an annealing process at 2000kg/hr. The Roller Hearth Furnace for Annealing metal parts is Energy Efficient and Cost Efficient as a result.

Also, the cooling chamber of this Annealing Furnace is specially constructed to allow heat treatment of metal coated parts

**Applications**: Non-oxidative Annealing Stainless steel and Steel pipes, cu-Alloy, Spheroidizing Annealing, Electromagnetic Annealing



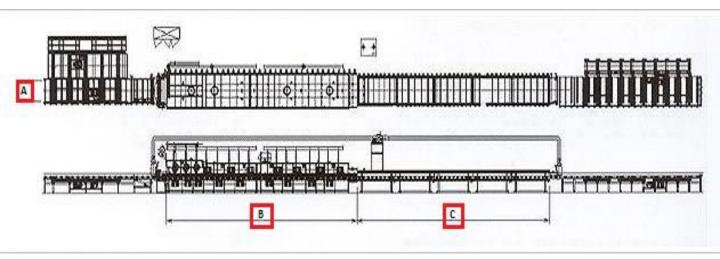
**Stainless Steel Annealing Furnace** H2 gas



**Steel Annealing Furnace** DX or RX gas

#### ■ Roller Hearth Furnace Annealing Furnace | Bright Annealing

#### **Specifications**



Treatment capacity at	Treatment capacity at	Mea	Amount		
annealing temperature of 700℃	annealing temperature of 900°C	Α	В	С	Installed Capacity (kg/H)
1,000kg/H	800kg/H	1,100	7,100	10,300	36
1,500kg/H	1,200kg/H	1,300	8,800	12,700	43
2,000kg/H	1,600kg/H	1,300	11,500	16,700	51
2,500kg/H	2,000kg/H	1,500	12,100	17,500	58
3,000kg/H	2,400kg/H	1,500	14,500	21,000	66

#### Heat Treatment Furnace for Bolts and Nuts



#### **Heat treatment Furnace for Nuts and Bolts | Carburizing, Tempering**

This heat treatment furnace operated on mesh belt SKID rails have reduced frictional resistance to allow heat treatment on large quantity products up to 1500 kg / hr. The continuous mesh belt process uses both electrical and gas heating to guarantee productivity. This type of heat treatment furnace can be manufactured for Hardening, or Tempering, or Carburizing or other Case hardening process.

#### Features:

Optimum Quality for minimum expense: Gas generator is equipped in the furnace to reduce the cost of gas production by 50%. Also, Atmosphere gas are recycled to cut raw material cost. Finally, exhaust gas are refined to recycle for heat treatment of N<sub>2</sub> base.

Atmosphere Control Technology: Inner atmosphere is strictly controlled to block external influence. Complete prevention of incompletely resolved gas is achieved by running on self-generation system. Curtains are installed inside to separate and maintain each zone at its optimum atmosphere.

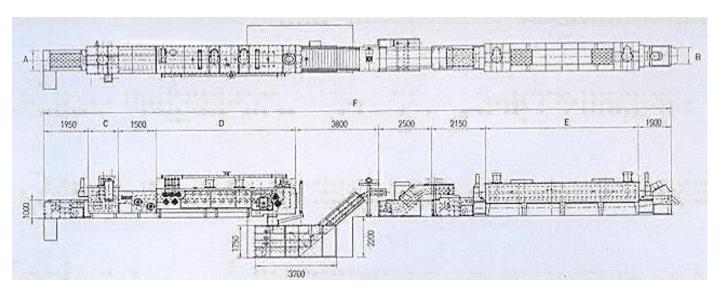
Oxidation Prevention: The combustion exhaust gas from DX-Gas burner is directed inside the Furnace to prevent oxidation that occurs under High Temperature.

Maximum temperature of 950°C

**Applications:** Nuts and Bolts for Automotive parts

#### Heat Treatment Furnace for Bolts and Nuts

#### **Specifications:**



		Measurement (mm)						Installed Capacity					
	Treatment		IV	casure	· · · · · ·	,		C	Quenching	Tempering			
	Capacity							Electricit	Electricity	+ Gas	Electricity	Gas	
		A	В	С	D	E	F	y (kw)	Electricity (kw)	Gas (kw)	(kw)	(kw)	
	200kg/H	500	700	1200	4000	5000	22150	90	49	4.5	50	5.5	
	350 kg/H	700	900	1200	4800	6500	22450	124	72	5.8	80	9.1	
Hardon	500 kg/H	900	1100	1800	4800	7500	26050	158	68	10.0	110	12.7	
Harden	600 kg/H	900	1100	1800	5800	8500	28050	176	87	10.0	130	14.5	
	700 kg/H	900	1300	2300	6700	8500	29450	194	105	10.0	150	16.4	
	1000 kg/H	1100	1500	2300	7800	10000	32050	252	126	14.0	-	22.7	
	100 kg/H	700	500	1200	7200	4500	24400	100	48	5.8	20	-	
Carburize	200 kg/H	900	700	1200	9300	5800	27800	124	72	5.8	30	-	
	350 kg/H	1100	900	1200	11800	7600	32100	176	87	10.0	40	-	

#### Heat Treatment Furnace for Bolts and Nuts

#### **Past Clients**

**ACI CHEMICALS-** Egypt

Alesion-Thailand

Al metal

**Behr-**Germany

Calsonic-Thailand, Taiwan

Daedong Radiator Daewoo Electric

Daihan Cooling & Heating - China

**Denso-**India **Dephi-**Korea

**Donghyun Steel** 

Halla Climate Control-Thailand, Korea

Husteel

Hyundai Hysco Hyundai Motor Iljin Light Metal

Japan Sumitomo - Taiwan

Jiada Precision Tube- China

Jiangsu Doutian Automobile-China

JianSu DooWon Automotive-China

**KAPEC** 

**KIA Motors** 

Kobe Aluminum-Japan

**Kuil C.C** 

K.Y.K -Japan

LG electronics

Mitsubishi-Japan

**MMS** Russia

**Modine** China

PT-Three star- Indonesia

SamHwa C.C

Samsung climate control

Samsung Electronics- India, China

Seah Steel

ShoWa Aluminum-Japan

SS Steel

ThreeStar Co.,Ltd-Indonesia, Korea

Toyo Rad-Indonesia

TY Group

VALEO-China, Mexico

Visteon -India

Xinxiangshi Longteng Zhileng-China

Y.B.S Y.C.P

Zhejian YinLun Machinery-China



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