

STi CO., LTD.

Supreme Thermal Instrument

Greeting

Technology Company for Customer Satisfaction



STI Co.,Ltd, have contributed the development of all industries by suppling our products and services satisfying each epochal demands in the field of industrial furnace heated by electricity, the establishment year of our company.

It has come the real at present which we thought as the ideal not long ago. The advanced materials manufacturing processes for optical communication, semi-conductor, ceramics, etc which are supporting a information society in modern times need inevitably the thermal technology. STI's specialization field is the research and development of advanced material heating equipments on the basis of our creative and up-to-date high thermal technology.

We, STI, will do constantly our best to develop the future thermal technology and to maintain as "Technology company for Customer Satisfaction" with the excellent technology power, sincere service system, wide and deep experiences accumulated for a long time we have.

Please consider us as the partner seeking for endless possibility, and feel free to contact us for and question. Thank you.

History

- 2007** Jul Converted to STI Co., LTD
- 2008** Aug Acquired K mark certification (Electronic kiln)
- 2009** Feb Established technology institute
Jul Export of optical fiber equipment (China)
Nov Selected as a designated company for military service exemption
- 2012** Apr Recognition of clean workplace
Oct Certified as an excellent green biz
- 2013** Aug Expanded and relocated Gumi
Dec Awarded "top exporter of 5 million dollars"
- 2014** Apr Certified as a corporation specialized in components and materials and selected as excellent corporation
May Reaffirmed as a venture corporation
Jul Certified as a corporation specialized in root technology
Nov Awarded "a man of merit" for venture vitalization by Administrator
Dec Awarded grand prize of advanced venture industry of Daegu, Gyeongsangbuk-do by the minister of Trade, Industry and Energy
Awarded grand prize of small and medium size companies of Gyeongsangbuk-do (Technology development) by governor of Gyeongsangbuk-do
- 2015** Jun Designated as a promising export small and medium sized company by the Small and Medium Business Administration
Nov Awarded "Best company of Gumi-si" by Gumi-si.
Dec Selected Gyeongbuk Pride Product (kiln)
Awarded "a presidential citation"
- 2016** Dec Achieved \$ 15 million in exports
- 2017** Apr Designation as Global Small Giant Company
Dec Achieved 44 million dollars in exports
- 2018** Jan Expanded and moved Head Office to Daegu
May Designation as World Class 300 Company
Jul Selected as Superior Venture Company
Selected as KDB Global Challengers 200 Company
Nov Designated as Daegu Metropolitan city Star 100 Company
Dec Selected as 2018 Trader of the Year
Achieved "55th The day of Trade. 100 Million Dollars Export Tower"
- 2019** Feb Signed Acceptance report with 'C' buyer for Optical Fiber Preform Equipment
Mar Receiving a minister citation for labor-management cooperation CEO
Dec Receiving a minister citation for Model Taxpayer
Selected as Excellent corporation R&D center

Certificate



Main Products

LED



LED phosphor vacuum & atmosphere Sintering Furnace



Phosphor Vacuum type Graphite Heater Furnace



Phosphor Horizontal & Vertical tube Furnace

Semiconductor



Vertical tube furnaces [12±wafer]



Horizontal tube furnaces [6±wafer]

Metallic



Vacuum Induction Melting Furnace



Car Bottom Type Furnace



Rotary Forging Furnace



Car bottom type furnaces



Vacuum Hydrogen Atmosphere Furnace

Ceramic



Baking Furnace



GPS



Elevator Type Sintering Furnaces



Catalyst steam furnaces



Sintering Furnaces [Elevator car bottom type]

Experiment



High Temperature Furnace [SFS-200]



High Temperature Furnace [SFMH-200]



Thermal shock test furnace



Monitoring furnace



Horizontal tube furnace [3 zone tube]

Optical



Silica Preform Sintering Furnace



Preform Elongation furnaces

Other



STI Electronic Klin



Heating continuous Furnace

LED

Phosphor

LED phosphor vacuum & atmosphere Sintering Furnace

Specification

Maximum Temperature	1,650°C
Maximum Vacuum Degree	5x10 ⁻⁴ torr
Maximum Pressure Degree	3 bar
Heating Element	Super kanthal
Using Gas	H ₂ , N ₂
Case	Double face steel(Stainless), Water convection cooling



Phosphor Horizontal & Vertical tube Furnace



Phosphor Vacuum type Graphite Heater Furnace



Sapphire growing & Annealing Furnace

Specification

Maximum Temperature	1,500°C
Temperature Variation	±1°C
Heating Element	SiC, MoSi ₂
Using Gas	H ₂ , N ₂
Case	Double face steel(Stainless), Water convection cooling



Semiconductor

Furnace System

- High temperature heating device for Wafer heat-treatment
- Heating Element : MoSi₂
- Recommended Ambient Clean Class : about Class 1,000

Control System

- PC control : PCL control method(Network & Monitoring available)
- Programmed to be operated by both auto and manual modes.

Safety device

- Alarm and cutoff devices are installed against the gas leakage & cooling Water.
- Cutoff device are installed against the electric overload or leakage

Vertical tube furnaces[12°±wafer]

Specification

Heating temperature	400~1,450°C
Wafer size	4~12inch
Wafer capacity	15~100PCS
Vacuum pressure	5x10 ⁻³ torr
Process tube	Quartz
Process control	PLC auto control



Horizontal tube furnaces[6°±wafer]

Specification

Heating temperature	200~1,100°C
Wafer size	4~8inch
Wafer capacity	15~200PCS
Vacuum pressure	5x10 ⁻³ torr
Process tube	Quartz
Process control	PLC auto control



Ceramic

Elevator Type Sintering Furnaces

Specification

Heating Temperature	1700°C
Effect Size	6 generation: W1,000 x H1,000 x L3,000mm 7 generation: W900 x H1,000 x L4,000mm 8 generation: W1,800 x H1,000 x L5,000mm
Temperature Variation	±5°C
Control Method	1~18 zone [touch & PLC control]
Heating Element	MoSi ₂
Power Supply	380~440V / 250~350KW
Heating Method	Four side walls heating



GPS

Specification

Heating Temperature	2,000~2,400°C
Dimension	150 x 150
Temperature control	1 Zone P.I.D control
Pressure	MoSi ₂ [1800°...]: 90o bent type
Heating Element	Graphite plate heater
Insulation	Graphite rigid felt + Graphite cylinder
Vacuum ventilation	D/P + R/P
Atmosphere	A high-degree vacuum -> Ar & N ₂ charge
Loading direction	Top door lading



Baking Furnace

Specification

Maximum Temperature	1,500~1,800°C
Maximum Vacuum Degree	5x10 ⁻² torr (Dry pump 8400L/min)
Maximum Pressure Degree	2~3 bar (50L/min)
Dimension(Heat Zone)	800 X 800 X 800
Heating Element	Graphite Heater
Using Gas	H ₂ , N ₂
Case	Double face steel(Stainless&Aluminum), Water convection cooling



Recirculating Furnaces

Specification

Operation Temperature	600°C
Furnace Internal Size	W1,000 x D900 x H1,250mm
Furnace External Size	W2,200 x D1,500 x H2,100mm
Electric Power	50kW
Using Gas	N ₂ , Air
Temperature Variation	±8°C
Heating Rate	600°C/2hr



Heat Treatment Furnaces



Catalyst Steam Furnaces



Sintering Furnaces [Elevator car bottom type]



Vacuum Sintering Furnace



ITO target Sintering Furnaces



Two Chamber Batch Type



Calcinatory Furnace



Continuous Furnace

Metallic

Semi-Continuity Vacuum Heat Treatment Furnace



Specification

Maximum Temperature	1,400°C
Maximum Vacuum torr	5X10 ⁻³ torr
Heating Rate	1,000°C/30min
Cooling Rate	150°C/min
Vacuum degree in operation	1~10 ⁻¹ torr
Heating Element	Graphite, Super Kanthal
Body Case	Water Circulation Double Structure
Cooling Type	Air , Oil Type
Vacuum Pump	Rotary Booster Standard Type
Using Gas	N ₂ , Ar
Capacity	50kg, 150kg, 250kg, 350kg, 500kg, 1,000kg
Affiliated Products	Three Chamber's Vacuum Furnace

Car bottom type furnaces



Specification

Heating Temp	950~1050°C
Heating Element	SiC
Working size	W440 X H230 X D4500mm
Power	110kW

Vacuum Heat Treatment Furnace



Specification

Maximum Temperature	1,200~1,800°C
Maximum Vacuum Degree	5X10 ⁻⁴ torr
Heating Element	Graphite Rod or Board
Insulation	Graphite Felt
Case	Double Face Steel(Stainless), Water Convection Cooling
Furnace Internal Size	W300~750 x H200~500 x L400~1,100mm
Reg Temperature	1,500°C
Heating Rate	40min
Cooling Rate	40min
Max Power	45~180kW
Cooling Water	1~4m ³ /hr
Cooling Gas	1.8~6.0m ³ /hr

Rotary forging furnaces



Specification

Heating temperature	500°C
Temperature variation	±5°C
Heating Element	SiC
Process control	PLC auto control

Vacuum

Vacuum Induction Melting Furnace



Specification

Maximum Temperature	1,800°C
Maximum Vacuum Degree	5X10 ⁻⁴ torr
Heating	Induction(Transistor type)
Crucible	Magnesia, Alumina, Silicon Carbide, etc
Using Gas	Gas(N ₂ , Ar, etc)
Body Cooling	Water Jacket
Disposal	Cu, Fe, etc

Bell type furnaces



Specification

Heating Temp	500~1,300°C
Working Size	Φ1,000XH1,500 mm
Heating Element	SiC
Capacity	5ton
Power	300kW

other

Vacuum Hydrogen Atmosphere Furnace



Specification

Maximum Temperature	1,250°C
Operating Temperature	1,150°C
Temperature Variation	±2°C
Power Supply	220V, 380V / 3φ / 100KW
Heating Rate	1,200°C/1.5hr
Effective Dimension	W520 X H540 X D1,650mm
Tube Size	W400 X H252 X D2.080mm
Using Gas	H ₂
Control	3 Zone Control
Control Method	Program P.I.D (Communication Board)

Sub-Zero Treatment Equipment



Specification

Normal Temperature	-70~ -90°C
Minimum Temperature	-196°C
Internal Dimension	W740 X D740 X H740mm
Effective Dimensions	W600 X D600 X H600mm
External Dimensions	W1,590 X D1,100 X H1,100mm

Experiment

Application fields

- Melting
- Thermal ageing
- Annealing
- Decomposition in chemical analysis
- Thermal impact testing

Option

- Exhaust part[manual, automatic]
- Cooling equipment [manual, automatic]
- Thermostat is installed inside furnace.

High Temperature Furnaces[SFMH-200]



Thermal shock test furnace



Monitoring furnace



Horizontal tube furnace (three zone tube)

High Temperature Furnaces[SFS-200]



Horizontal type vacuum tube furnace (auto open door system)



Materials recycling furnace



Vertical one-zone furnace

TYPE	Internal dimension			External			Maximum Temperature °C	Normally Working Temperature °C	Phase Φ	Weight kg
	W	D	H	W	D	H				
SFXQ-200	200	250	200	450	450	600	1,200	1,100	1	46
SFXQ-300	300	350	250	550	600	650	1,200	1,100	1	120
SFXQ-450	450	450	400	800	750	850	1,200	1,100	3	200
SFXQ-600	600	600	550	980	1,500	1,150	1,200	1,100	3	250
SFS-150	150	200	150	500	600	950	1,550	1,500	1	46
SFS-200	200	300	200	600	700	1,020	1,550	1,500	1	120
SFS-250	250	400	200	700	800	1,250	1,550	1,500	1	200
SFS-350	350	500	600	900	1,250	1,700	1,550	1,500	3	250
SFMH-150	150	200	150	650	700	900	1,800	1,650	1	150
SFMH-200	200	200	200	710	750	1,350	1,800	1,650	1	250
SFMH-250	250	400	200	1,050	800	1,500	1,800	1,650	3	300



Multi batch type furnace type



SOFC stack test box system



Catalytic combustor

Optical

Furnace System

- High temperature heating device for preform sintering.
- Heating Element: MoSi2 (1,900°C)
- Quartz Tube Size: Φ200 x H2,800mm(t=5mm)

Rotation System

- Rotation Angle :360°C
- Rotation rate : 0.5 ~ 5rpm(easily adjustable)
- No noise and vibration during rotation

Control System

- PLC control method(Network available)
- Programmed to be operated by both auto and manual modes.

Safety device

- Alarm and cutoff devices are installed against the gas leakage
- Cutoff device are installed against the electric overload or leakage.

Hanging system

- Required vertical angle of preform : 90°±0.1°
- Up-and-Down movement rate of furnace body(easily adjustable)
- ① Low Rate : 0.5mm ~ 5mm/min
- ② High Rate : 100mm ~ 300mm/min

Silica Preform Sintering Furnace



Specification

Operating temperature	1,650°C
Process tube diameter	200mm
Electric power	70kw
Using gas	He, Cl ₂ , O ₂
Furnace rough size	W3,000 X H6,000 X L2,000mm



Preform Elongation furnaces

Specification

Material	Quartz rod for optical fiber preform
Operating temperature	2,200°C
Heat element	Graphite resistance furnace
Electric power	55kw
Using gas	N ₂
Machine height	Approx. 11,000mm

Main sales record

Company

Samsung Electric, Hyundai Heavy Industries, Kangwon Industry, Daewoo Moroe, Daewoo Electirc, LG Metal, Kolon, Doosan Heavy Industries, Kumgang, Kumho, Daewoo Precision, Chosun Steel Wire, Pacific Metal, Dae A Lead Wire, Namsun Aluminium, KEPCO Nuclear Fuel, Daelim Motor, Woosung Tire, Ssangyoung Material, Daegu Tech, Taeseok Precision, Wonik, SK siltron, S&T Dynamics, LS Cable & System etc



Laboratory

Korea Institute of Industrial Technology, Research Institute of Industrial Science & Techonology(RIST), Korea Advanced Institute of Science & Technology (KAIST), Korea Institute of Machinery & Materials(KIMM), Rural Development Administration, Ulsan National Institute of Science and Technology(UNIST), Postech National Institute for Nanomaterials Technology(NINT) etc.



Educational Institute

Seoul National University, Yonsei University, Hanyang University, Yeongnam University, Daegu University, Sungkyunkwan University, Chungbuk University, kumoh University, Hanbat University, Pohang Techology University, Incheon Technology, Daegu Engineering, Kunsan Job Training, Busan Technology, Ulsan Engineering, Kyungbuk Machinery Technology High School, Busan Machinery Technical High School, etc



Overseas



HEAD OFFICE

39, Sechenro7-gil, Dasa-eup,
Dalseong-gun, Daegu, Korea

GUMI FACTORY

104-75, Sanhodaero, Gumi-si,
Gyeongsangbuk-do, Korea

TEL. +82-53-716-1851

FAX. +82-53-716-1854

E-MAIL. sti@stifurnace.com
sjm@stifurnace.com

