

04. FURNACE

Furnace is a type of furnace with an externally heated chamber with walls that radiantly heat the insides of the compartment in order to prevent the samples having any contact with the flame. We provides various temperature coverages (1050°C, 1200°C, 1500°C, 1700°C, 1800°C) of furnace that can be used for laboratory and other related industries.



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1050°C Muffle Furnace



Model	SH-FU-3MGE	SH-FU-5MGE	SH-FU-7MGE	SH-FU-11MGE
Max Temp	1050°C (2192°F)			
Temp Controller	Digital PID Controller			
Sensor	K type			
Heater Capa	1100 W	1500 W	2000 W	2800 W
Capa	3 L	5.1 L	7.4 L	11.2 L
Dimension Internal (WxDxH)	130x220x110mm	150x260x130mm	170x290x150mm	200x310x180mm
	5.12x8.66x4.33"	5.91x10.24x5.12"	6.69x11.42x5.91"	7.87x12.20x7.09"
Dimension External (WxDxH)	300x378x405mm	320x428x425mm	340x458x445mm	370x468x475mm
	11.81x14.88x15.94"	12.60x16.85x16.73"	13.39x18.03x17.52"	14.57x18.43x18.70"
Net weight	19 Kg	22 Kg	28 Kg	34 Kg
Heater Element	KANTAL A-1 with CERAMIC FIBER			
Insulation	Ceramic Board & Wool			
Electrical Requirements 120V ,50/60Hz, 1Φ	10 A	14 A	18 A	25 A
Cat. No.	FU3MGE120	FU5MGE120	FU7MGE120	FU11MGE120
Electrical Requirements 230V ,50/60Hz, 1Φ	5 A	7 A	9 A	13 A
Cat. No.	FU3MGE230	FU5MGE230	FU7MGE230	FU11MGE230

• Safety Device

- Automatic reset function incoming power cut
- Buzzer on when set time arrived

1200°C Muffle Furnace



Model	SH-FU-3MG	SH-FU-5MG	SH-FU-14MG	SH-FU-27MG
Max Temp	1200°C (2192 F)			
Temp Controller	Digital PID Controller			
Sensor	K type			
Heater Capa	1400 W	1600 W	4100 W	4900 W
Capa	2.9 L	4.5 L	14 L	27 L
Dimension Internal (WxDxH)	130x250x90mm	150x300x100mm	250x350x160mm	300x300x300mm
	5.12x9.87x3.54"	5.91x11.81x3.93"	9.84x13.78x6.30"	11.81x11.81x11.81"
Dimension External (WxDxH)	370x505x570mm	390x555x580mm	500x605x670mm	580x585x840mm
	14.57x19.88x22.44"	15.30x21.85x22.83"	19.69x23.82x26.38"	22.83x23.03x33.07"
Weight	34 Kg	48 Kg	70 Kg	114 Kg
Heater Element	KANTHAL A-1			
Insulation	Ceramic Board & Wool			
Electrical Requirements 120V, 50/60Hz, 1Φ	11.7 A	13.3 A	34.2 A	N/A
Cat. No.	FU3MG120	FU5MG120	FU14MG120	N/A
Electrical Requirements 230V, 50/60Hz, 1Φ	6.1 A	7 A	17.8 A	21.3 A
Cat. No.	FU3MG230	FU5MG230	FU14MG230	FU27MG230
Electrical Requirements 230V, 50/60Hz, 3Φ	N/A			12.3 A
				FU27MG230-3
Electrical Requirements 380V, 50/60Hz, 3Φ	N/A			7.5 A
				FU27MG380

• Option

- Programmable controller (FC-1000 or SP590)
- Hybrid recoder

• Safety Device

- Automatic reset function incoming power cut
- Buzzer on when set time arrived
- Over temperature protection
- Door open alarm

1500°C Muffle Furnace



Model	SH-FU-4MH	SH-FU-11MH	SH-FU-22MH	SH-FU-36MH
Max Temp	1500°C (2732°F)			
Temp Controller	Programmable Controller(FC-1000)			
Sensor	R type			
Heater Capa	5000 W	7600 W	9600 W	11 KW
Capa	4.5 L	11 L	22 L	36 L
Dimension Internal (WxDxH)	150x200x150mm	200x270x200mm	250x350x250mm	300x400x300mm
	5.91x7.87x5.91"	7.87x10.63x7.87"	9.84x13.78x9.84"	11.81x15.75x11.81"
Dimension External (WxDxH)	820x560x737mm	870x625x787mm	920x705x867mm	970x760x920mm
	32.28x22.05x29.02"	34.25x24.61x30.98"	36.22x27.76x34.13"	38.19x29.92x36.22"
Weight	92 Kg	102 Kg	1 47 Kg	154 Kg
Heater Element	SiC			
Insulation	Ceramic Board & Wool			
Electrical Requirements 230V ,50/60Hz, 1Φ	21.7 A	33.0 A	41.7 A	N/A
Cat. No.	FU4MH230	FU11MH230	FU22MH230	
Electrical Requirements 230V ,50/60Hz, 3Φ	N/A			27.7 A
Cat. No.				FU36MH230-3

• Option

- Programmable controller (SP590)
- Hybrid recoder

• Safety Device

- Automatic reset function incoming power cut
- Buzzer on when set time arrived
- Over temperature alarm

1700°C / 1800°C Muffle Furnace



Model(1700°C / 1800°C)		SH-FU-4MS	SH-FU-11MS	SH-FU-22MS
Max Temp		1700°C (3092°F) / 1800°C (3272°F)		
Temp Controller		Programmable Controller(SP590)		
Sensor		R type (1700°C) / B type (1800°C)		
Heater Capa	1700°C	4.2 KW	9.2 KW	13.0 KW
	1800°C	3.0 KW	6.6 KW	9.5 KW
Capa		4.5 L	11 L	22 L
Dimension Internal (WxDxH)		150x200x150mm	200x270x200mm	250x350x250mm
		5.91x7.87x5.91"	7.87x10.63x7.87"	9.84x13.78x9.84"
Dimension External (WxDxH)		920x600x765mm	1000x670x835mm	1080x750x910mm
		36.22x23.62x30.12"	39.37x26.38x32.87"	42.52x29.53x35.83"
Net weight		150 Kg	186 Kg	210 Kg
Heater Element		MoSi2		
Insulation		Ceramic Board & Wool		
Electrical Requirements 230V ,50/60Hz, 1Φ		19.0 A / 13.6 A	41.8 A / 30.0 A	59.1 A / 43.2 A
Cat. No	Max 1700°C	FU4MS230-17	FU11MS230-17	FU22MS230-17
	Max 1800°C	FU4MS230-18	FU11MS230-18	FU22MS230-18

• Option

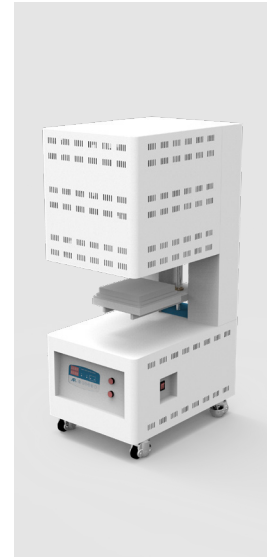
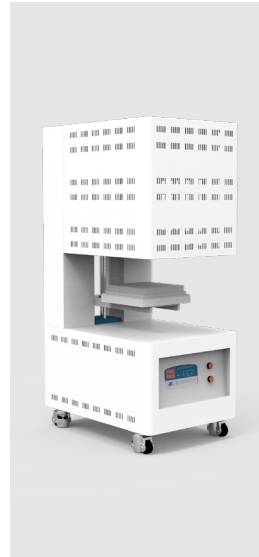
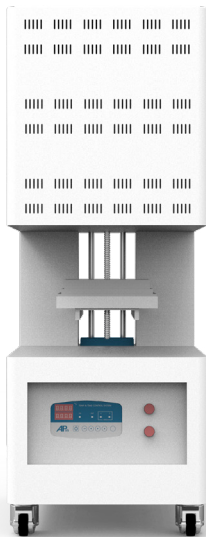
-Hybrid recoder

• Safety Device

-Automatic reset function incoming power cut
-Over temperature alarm

1200°C Elevator Furnace

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Model	SH-FU3.5MGU	SH-FU6.5MGU
Max Temp	1200°C (2192°F)	
Temp Controller	Digital PID Controller	
Sensor	K type	
Heater Capa	2200 W	3000 W
Capa	3.5 L	6.5 L
Dimension Internal (WxDxH)	140x140x180mm	180x180x200mm
	5.51x5.51x7.08"	7.08x7.08x7.87"
Dimension External (WxDxH)	405x480x900mm	445x520x920mm
	15.94x18.89x35.43"	17.51x20.47x36.22"
Weight	45 Kg	60 Kg
Heater Element	KANTAL A-1 with CERAMIC	
Insulation	Ceramic Board & Wool	
Electrical Requirements 120V ,50/60Hz, 1Φ	20 A	27 A
Cat. No.	FU3.5MGU120	FU6.5MGU120
Electrical Requirements 230V ,50/60Hz, 1Φ	10 A	14 A
Cat. No.	FU3.5MGU230	FU6.5MGU230

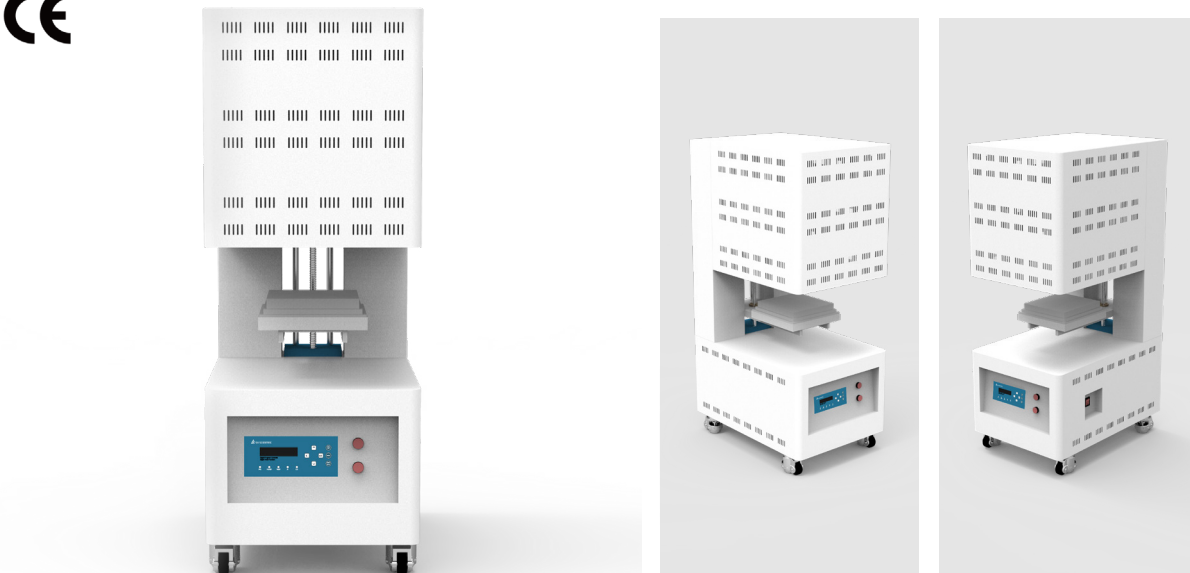
• Option

- Programmable controller (FC-1000 or SP590)

• Safety Device

- Automatic reset function incoming power cut
- Buzzer on when set time arrived
- Over temperature protection

1500°C Elevator Furnace



Model	SH-FU-2MHU	SH-FU-4MHU	SH-FU-6MHU
Max Temp	1500c (2732 F)		
Temp Controller	Programmable Controller(FC-1000)		
Sensor	R type		
Weight	65 Kg	80 Kg	105 Kg
Heater Capa	3500 W	3300 W	7700 W
Capa	2.2 L	3.8 L	6.2 L
Dimension Internal (WxDxH)	120x120x150mm	150x150x170mm	180x180x190mm
	4.72x4.72x5.91"	5.91x5.91x6.69"	7.09x7.09x7.48"
Dimension External (WxDxH)	450x515x1025mm	480x545x1070mm	510x575x1115mm
	17.72x20.28x40.35"	18.90x21.46x42.13"	20.08x22.64x43.90"
Heater Element	SiC		
Insulation	Ceramic Board & Wool		
Electrical Requirements 230V ,50/60Hz, 1Φ	16 A	15 A	35 A
Cat. No.	FU2MHU230	FU4MHU230	FU2MHU230

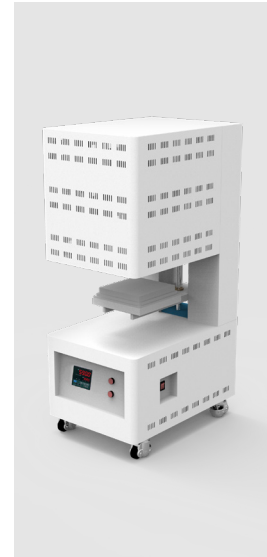
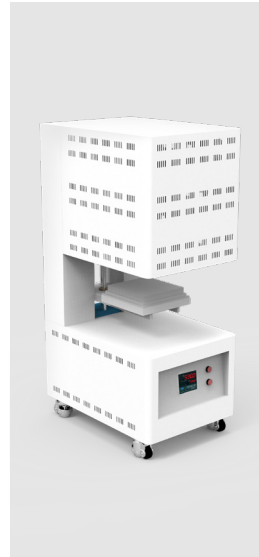
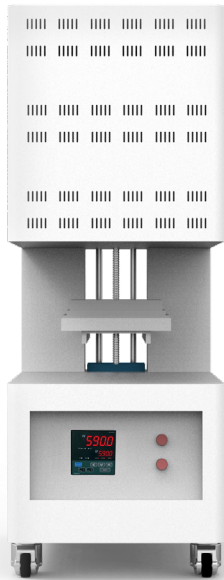
• **Option**

-Programmable controller (SP590)

• **Safety Device**

-Automatic reset function incoming power cut
-Buzzer on when set time arrived
-Over temperature protection

1700°C / 1800°C Elevator Furnace

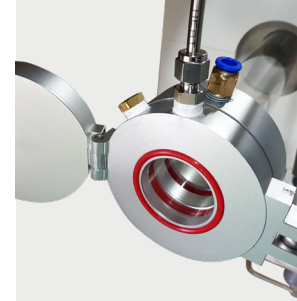


Model(1700°C/1800°C)		SH-FU-2MSU	SH-FU-4MSU	SH-FU-6MSU
Max Temp		1700°C (3092°F) / 1800°C (3272°F)		
Temp Controller		Programmable Controller(SP590)		
Sensor		R type (1700°C) / B type (1800°C)		
Weight		65 Kg	80 Kg	105 Kg
Heater Capa	1700°C	2700 W	4500 W	6600 W
	1800°C	1800 W	3000 W	4800 W
Capa		2.2 L	3.8 L	6.2 L
Dimension Internal (WxDxH)		120x120x150mm	150x150x170mm	180x180x190mm
		4.72x4.72x5.91"	5.91x5.91x6.69"	7.09x7.09x7.48"
Dimension External (WxDxH)		450x515x1025mm	480x545x1070mm	510x575x1115mm
		17.72x20.28x40.35"	18.90x21.46x42.13"	20.08x22.64x43.90"
Heater Element		MoSi2		
Insulation		Ceramic Board & Wool		
Electrical Requirements 230V ,50/60Hz, 1Φ		12 A / 8 A	20 A / 14 A	30 A / 22 A
Cat. No.		FU2MSU230-17 / FU2MSU230-18	FU4MSU230-17 / FU4MSU230-18	FU6MSU230-17 / FU6MSU230-18

• Safety Device

- Automatic reset function incoming power cut
- Over temperature alarm

300mm Length Hot Zone 1200°C Gas Flow Package



Model	SH-FU-50STG-WG	SH-FU-80STG-WG	SH-FU-100STG-WG	SH-FU-120STG-WG	
Furnace	SH-FU-50STG	SH-FU-80STG	SH-FU-100STG	SH-FU-120STG	
Components	Gas Flowmeter 1EA				
	Stainless Steel Pipe & Connector				
	Gas Sealing Mask				
	Quartz Tube (Length 1000 mm)				
Cat. No.	120 V	FU50STG120	FU80STG120	FU100STG120	FU120STG120
	230 V	FU50STG230	FU80STG230	FU100STG230	FU120STG230

• Safety Device

- Automatic reset function incoming power cut
- Buzzer on when set time arrived
- Over temperature protection

• Option

- Multi gas inlet module can be added per request.

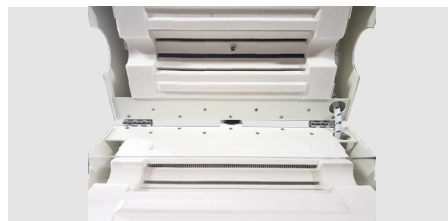


Standard



Option (additional 1pc of gas module)

1200°C Tube Furnace



Model	SH-FU-50STG	SH-FU-80STG	SH-FU-100STG	SH-FU-120STG
Max Temp	1200°C (2192°F)			
Temp Controller	Programmable Controller(FC-1000)			
Sensor	K type			
Applicable Tube Diameter	50 φ	80 φ	100 φ	120 φ
Heater Capa	2000 W	2500 W	3200 W	3600 W
Dimension Hot Zone	Length 300 mm			
Dimension External (WxDxH)	502x357x517mm 19.76x14.06x20.35"	502x365x537mm 19.76x14.37x21.14"	502x397x557mm 19.76x15.63x21.93"	502x455x630mm 19.76x17.91x24.80"
Weight	27 Kg	32 Kg	48 Kg	70 Kg
Heater Element	Kanthal A-1			
Insulation	Ceramic Board & Wool			
Electrical Requirements 120V ,50/60Hz, 1φ	17.4 A	21.9 A	28.0 A	33 A
Cat. No.	FU50STG120	FU80STG120	FU100STG120	FU120STG120
Electrical Requirements 230V ,50/60Hz, 1φ	9.1 A	11.4 A	14.6 A	16 A
Cat. No.	FU50STG230	FU80STG230	FU100STG230	FU120STG230

600mm Length Hot Zone

1200°C Gas Flow Package



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Model	SH-FU-50LTG-WG	SH-FU-80LTG-WG	SH-FU-100LTG-WG	SH-FU-120LTG-WG	
Furnace	SH-FU-50LTG	SH-FU-80LTG	SH-FU-100LTG	SH-FU-120LTG	
Components	Gas Flowmeter 1EA				
	Stainless Steel Pipe & Connector				
	Gas Sealing Mask				
	Quartz Tube (Length 1200 mm)				
Cat. No.	120 V	FU50LTGWG120	FU80LTGWG120	FU100LTGWG120	FU120LTGWG120
	230 V	FU50LTGWG230	FU80LTGWG230	FU100LTGWG230	FU120LTGWG230

. Safety Device

- Automatic reset function incoming power cut
- Buzzer on when set time arrived
- Over temperature protection

. Option

- Multi gas inlet module can be added per request.

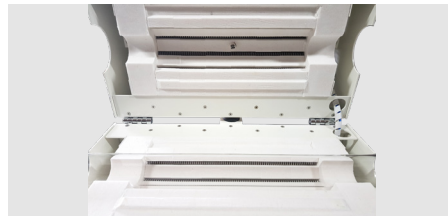


Standard



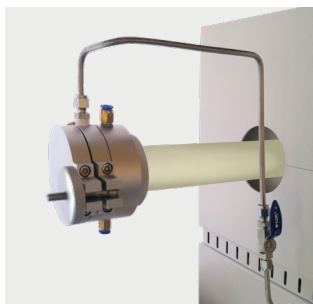
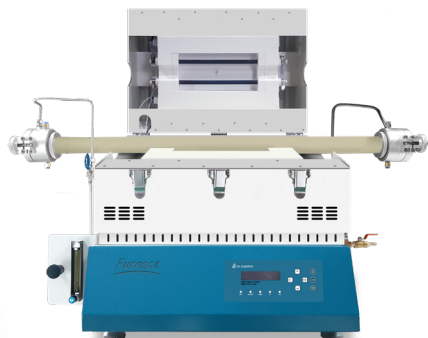
Option (additional 1pc of gas module)

1200°C Tube Furnace



Model	SH-FU-50LTG	SH-FU-80LTG	SH-FU-100LTG	SH-FU-120LTG
Max Temp	1200°C (2192°F)			
Temp Controller	Programmable Controller(FC-1000)			
Sensor	K type			
Applicable Tube Diameter	50 Φ	80 Φ	100 Φ	120 Φ
Heater Capa	3600 W	4400 W	6000 W	7200 W
Dimension Hot Zone	Length 600 mm			
Dimension External (W×D×H)	802x357x517mm	802x365x537mm	802x397x557mm	802x455x630mm
	31.57x14.06x20.35"	31.57x14.37x21.14"	31.57x15.63x21.93"	31.57x17.91x24.80"
Weight	52 Kg	56 Kg	68 Kg	105 Kg
Heater Element	Kanthal A-1			
Insulation	Ceramic Board & Wool			
Electrical Requirements 120V ,50/60Hz, 1Φ	33 A	40 A	N/A	
Cat. No. 50Hz(60Hz)	FU50LTG120	FU80LTG120		
Electrical Requirements 230V ,50/60Hz, 1Φ	16 A	20 A	27 A	33 A
Cat. No. 50Hz(60Hz)	FU50LTG230	FU80LTG230	FU100LTG230	FU120LTG230
Electrical Requirements 230V ,50/60Hz, 3Φ	N/A		15.1 A	18.1 A
Cat. No. 50Hz(60Hz)			FU100LTG230-3	FU120LTG230-3
Electrical Requirements 380V ,50/60Hz, 3Φ			9.1 A	10.9 A
Cat. No. 50Hz(60Hz)			FU100LTG380-3	FU120LTG380-3

1500°C Gas Flow Package



Model	SH-FU-50TH-WG	SH-FU-80TH-WG	SH-FU-100TH-WG	SH-FU-120TH-WG	
Furnace	SH-FU-50TH	SH-FU-80TH	SH-FU-100TH	SH-FU-120TH	
Components	Gas Flowmeter 1EA				
	Stainless Steel Pipe & Connector				
	Gas Sealing Mask				
	Alumina Tube (Length 1000 mm)				
Cat. No.	230 V, 1Φ	FU50THWG230	FU80THWG230	FU100THWG230	FU120THWG230

• Safety Device

- Automatic reset function incoming power cut
- Buzzer on when set time arrived
- Over temperature alarm

• Option

- Multi gas inlet module can be added per request.



Standard



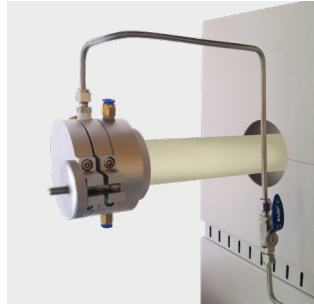
Option (additional 1pc of gas module)

1500°C Tube Furnace



Model	SH-FU-50TH	SH-FU-80TH	SH-FU-100TH	SH-FU-120TH
Max Temp	1500°C (2732°F)			
Temp Controller	Programmable Controller(FC-1000)			
Sensor	R type			
Applicable Tube Diameter	50 Φ	80 Φ	100 Φ	120 Φ
Heater Capa	5 KW	7 KW	13 KW	9.6 KW
Dimension Hot Zone	Length 300 mm			
Dimension External (WxDxH)	682x487x580mm	682x517x610mm	682x547x640mm	682x570x730mm
	26.85x19.17x22.83"	26.85x20.35x24.02"	26.85x21.53x25.19"	26.85x22.44x28.74"
Weight	67 Kg	72 Kg	114 Kg	145 Kg
Heater Element	SiC			
Insulation	Ceramic Board & Wool			
Electrical Requirements 230V ,50/60Hz, 1Φ	22.7 A	31.8 A	59.1 A	44 A
Cat. No. 50Hz(60Hz)	FU50TH230	FU80TH230	FU100TH230	FU120TH230

1700°C / 1800°C Gas Flow Package



Model		SH-FU-50TS-WG	SH-FU-80TS-WG	SH-FU-100TS-WG	SH-FU-120TS-WG
Furnace		SH-FU-50TS	SH-FU-80TS	SH-FU-100TS	SH-FU-120TS
Components		Gas Flowmeter 1EA			
		Stainless Steel Pipe & Connector			
		Gas Sealing Mask			
		Alumina Tube (Length 1000 mm)			
Cat. No.	Max1700°C	FU50TS-17WG230	FU80TS-17WG230	FU100TS-17WG230	FU120TS-17WG230
	Max1800°C	FU50TS-18WG230	FU80TS-18WG230	FU100TS-18WG230	FU120TS-18WG230

• Safety Device

- Automatic reset function incoming power cut
- Over temperature alarm

• Option

- Multi gas inlet module can be added per request.



Standard



Option
(additional 1pc of gas module)

1700°C / 1800°C Tube Furnace



Model (1700°C / 1800°C)		SH-FU-50TS	SH-FU-80TS	SH-FU-100TS	SH-FU-120TS
Max Temp		1700°C (3092°F) / 1800°C (3272°F)			
Temp Controller		Programmable Controller(SP590)			
Sensor		R type (1700°C) / B type (1800°C)			
Applicable Tube Diameter		50 φ	80 φ	100 φ	120 φ
Heater Capa		4.1 KW / 3.1 KW	5.6 KW / 4.2 KW	6.5 KW / 4.9 KW	8.0 KW / 6.0 KW
Dimension Hot Zone		Length 300 mm			
Dimension External (W×D×H)		690x550x980mm	690x580x1010mm	690x600x1030mm	690x640x1110mm
		27.17x21.65x38.58"	27.17x22.83x39.76"	27.17x23.62x40.55"	27.17x25.20x43.70"
Weight		75 Kg	83 Kg	131 Kg	160 Kg
Heater Element		MoSi 2			
Insulation		Ceramic Board & Wool			
Electrical Requirements 230V ,50/60Hz, 1φ		19 A / 14 A	25 A / 19 A	30 A / 22 A	36 A / 27 A
Cat. No. 50Hz(60Hz)	Max 1700°C	FU50TS230-17	FU80TS230-17	FU100TS230-17	FU120TS230-17
	Max 1800°C	FU50TS230-18	FU80TS230-18	FU100TS230-18	FU120TS230-18

Tube Furnace Package

1200°C Furnace



<FU-PK-STG>



<FU-PK-LTG>

Package Model		FU-PK-G1	FU-PK-G2	FU-PK-G3	FU-PK-G4
Furnace Model		SH-FU-50(S,L)TG-WG	SH-FU-80(S,L)TG-WG	SH-FU-100(S,L)TG-WG	SH-FU-120(S,L)TG-WG
Chiller		SH-WB-7CDR	SH-WB-7CDR	SH-WB-13CDR	SH-WB-13CDR
Vacuum Pump		SH-V10	SH-V10	SH-V10	SH-V10
Oil Mist Trap		VOT-1020	VOT-1020	VOT-1020	VOT-1020
Dimension	300mm Hot Zone	1265x725x1420mm 49.80x28.54x55.90"	1265x725x1440mm 49.80x28.54x56.69"	1265x800x1495mm 49.80x31.49x58.85"	1265x800x1570mm 49.80x31.49x61.81"
	600mm Hot Zone	1465x725x1420mm 49.80x28.54x55.90"	1465x725x1440mm 49.80x28.54x56.69"	1465x800x1495mm 49.80x31.49x58.85"	1465x800x1570mm 49.80x31.49x61.81"
Cat.NO	300mm Hot Zone	FUPKG1300	FUPKG2300	FUPKG3300	FUPKG4300
	600mm Hot Zone	FUPKG1600	FUPKG2600	FUPKG3600	FUPKG4600

1500°C Furnace



Package Model		FU-PK-H1	FU-PK-H2	FU-PK-H3	FU-PK-H4
Furnace Model		SH-FU-50TH-WG	SH-FU-80TH-WG	SH-FU-100TH-WG	SH-FU-120TH-WG
Chiller		SH-WB-13CDR	SH-WB-13CDR	SH-WB-22CDR	SH-WB-22CDR
Vacuum Pump		SH-V10	SH-V10	SH-V10	SH-V10
Oil Mist Trap		VOT-1020	VOT-1020	VOT-1020	VOT-1020
Dimension		1265x725x1485mm 49.80x28.54x58.46"	1265x725x1515mm 49.80x28.54x59.64"	1265x800x1580mm 49.80x31.49x62.20"	1265x800x1670mm 49.80x31.49x65.74"
	Cat.NO	FUPKH1300	FUPKH2300	FUPKH3300	FUPKH4300

1700°C / 1800°C Furnace



Package Model		FU-PK-S1	FU-PK-S2	FU-PK-S3	FU-PK-S4
Furnace Model		SH-FU-50TS-WG	SH-FU-80TS-WG	SH-FU-100TS-WG	SH-FU-120TS-WG
Chiller		SH-WB-13CDR	SH-WB-13CDR	SH-WB-22CDR	SH-WB-48CDR
Vacuum Pump		SH-V10	SH-V10	SH-V10	SH-V10
Oil Mist Trap		VOT-1020	VOT-1020	VOT-1020	VOT-1020
Dimension (Frame)		1265x725x1885mm	1265x725x1915mm	1265x800x1970mm	1265x800x2050mm
		49.80x28.54x74.21"	49.80x28.54x75.39"	49.80x31.49x77.56"	49.80x31.49x80.71"
Cat.NO	Max 1700°C	FUPKS1300-17	FUPKS2300-17	FUPKS3300-17	FUPKS4300-17
	Max 1800°C	FUPKS1300-18	FUPKS2300-18	FUPKS3300-18	FUPKS4300-18

Cooling Chiller



This is unit to supply coolant to cooling line.

Model	Bath Capacity	Temp Range
SH-WB-7CDR	7 L	-20°C~150°C
SH-WB-13CDR	13 L	
SH-WB-22CDR	22 L	
SH-WB-48CDR	48 L	-20°C~65°C

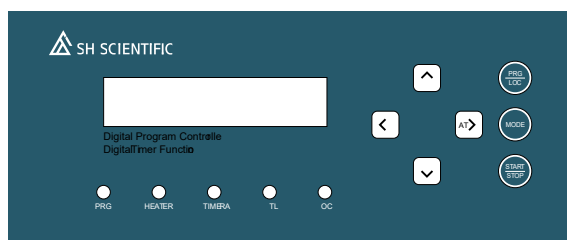
Vacuum pump



Oil rotary and head direct connection type. Feature of this type is convenient to operate and move because of it's small size and light weight.

Model	Pump Speed
SH-V10	78L/Min
SH-V20	156L/Min
SH-V40	312L/Min
SH-V60	474L/Min

Programmable Controller (FC-1000)



- LCD Display
- Program mode, Standard Mode Selectable.
- Parameter setting
- Auto tune function
- Timer function
- PV,SV can be displayed together

Display	Size(WxH)	190x75mm / 7.48x2.95"
	PV/SP Display	4 Digit
Operation Mode		Program / Standard
Control Mode		1CH Control
Max Channel		-
Features	Patterns & Segments	5 patterns, 9 Segments / pattern, Total 45 Segments
	Cycles	1 ~ 999
Input	TC	K
Output	Control Output	SSR(Voltage Pulse)
Sampling Time		250ms
Accuracy		±0.1% ±1% digit of Full Scale
Power	Power	100 ~ 240V AC, 50 ~ 60Hz
	Power Consumption	Max 6W

Programmable Controller (SP590)

Options



- High Accuracy($\pm 0.1\%$) with excellent Function
- Multi Input : TC, RTD, DCV
- Simultaneous and Multi output available in Max 4 Points
- Easy parameter and value setting
- Function to protect over shoot
- RUN/STOP Function in the external Input contact point
- Display of Running status in Auxiliary Output
- Large Program Capacity : 2 Patterns / 30 Segments
- Variety of Auxiliary Output available (ex IS, TS, PEND etc)
- Input Piece Bias Function(Max 4 zone)
- Automatic PID Parameter Calculation
- Variety of communication Protocols
- Reliable quality(CE, CUL, ISO applied)

Display	Size(WxHxL)	96x96x100mm / 3.8x3.8x3.9"
	PV/SP Display	4 Digit
Operation Mode		Program / Reset, 2 Zone PID
Control Mode		1CH Control
Max Channel		-
Pattern & Segments		2 Pattern / Max 30 segments
Input	TC	K, J, E, T, R, B, S, L, N, U, W, C, Platinel II
	RTD	Pt100 Ω , JPt100 Ω
	Analog Voltage Input	-10~20mV, 0~100mV, 0.4~2.0V DC, 1~5V DC, 0~10V DC
Output	Control Output	RELAY, SSR(Voltage Pulse)
	Current Output	4 ~ 20mA DC
	Voltage Output	-
	Transmission Output	4 ~ 20mA (PV, SP, MV)
Digital Input	Contact Type	2 Points / 4 Types(RUN, HOLD, STEP, RESET)
	Contact capacity	-
Digital Output	Relay	Normal Open 30V DC A, 250V AC 1A Normal Close 30V DC3A 250V AC 3A
	Open Collector	ON voltage across contacts at less than 2V, the leakage current less than 100 μ A
Sampling Time		250ms
Accuracy		$\pm 0.1\%$ $\pm 1\%$ digit of Full Scale
Event	Alarm	1 Point / Max 3 Points(20 Types)
	Inner Signal	2 Points (PV, SP, TSP)
	Time Signal	1 Point
	Other	1 Point (RUN, Pattern END, UP, DOWN, SOAK)
Communication	Interface	RS485
	Protocol	PC-Link, MODBUS(ASCII, RTU), SYNC(Master, Slave)
	Speed	Max 19,200 bps
Power	Power	100 ~ 240V AC, 50 ~ 60Hz
	Power Consumption	Max 6W
Operating environment		-
Weight		-

Hybrid Recorder Options

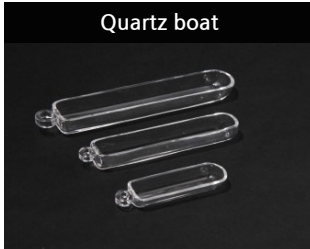


- 50mm thermal transfer method of paper recorder
- Data logger functions for recording without paper
- Supports RS485 communication and dedicated communication port to set or monitor parameters in real-time by PC/PLC
- Multi-input with high accuracy 0.2% level (RTD, TC, Analog)
- 2-channel simultaneous recording in graphic mode and digital mode
- High visibility and easy setting by LCD dot matrix
- Supports various option I/O functions
- Small size(W96×H96×L100mm / 3.78x3.78x3.94"), light weight

Record accuracy		±0.5%F.S.
Alarm output		CH1 (AL1, AL2), CH2(AL1, AL2) Relay out put(250 VAC/30 VDC 3 A 1 a)
Alarm output hysteresis		ON/OFF interval setting for alarm output: 1 to 999digit variable
Communication output		RS485 communication output(Modbus RTU protocol)
Set method		Setting by front keys
Sampling cycle		500 ms/channel x 2 channels = 1000 ms
Dielectric strength		2300 VAC 50/60 Hz for 1 min.(charging terminal of the other polarity)
Vibration		0.75 mm amplitude at frequency of 10 to 55 Hz (for 1 min.) in each of X, Y, Z directions for 1 hour
Relay life cycle		Mechanical: Over 5,000,000 operations, Electrical: Over 100,000 operations
Insulation resistance		Over 100 MΩ (at 500 VDC megger)
Noise resistance		Square shaped noise by noise simulator (pulse width 1 μs)±2 kV
Print	Method	Direct thermal line print
	Resolution	8 dot/mm
	Dots	384 dot/Line
	Life cycle	50 km
Record	Graphic mode	<ul style="list-style-type: none"> • Record speed(recording paper speed): 10, 30, 60, 120, 240, 480, 940 mm/hour • Memo cycle: 30 s, 1 m, 5 m, 10 m, 15 m, 30 m, 1 h, 2 h, 3 h, 4 h, 8 h, 16 h, 24 h
	Digital mode	TEXT mode record cycle: 00 m 05 s to 99 m 59 s
	Paper	Thermal Direct Receipt Paper (57 mm x 16 m)
	Paper supply method	Clamshell Type
	Language	Korean, English
Environment	Ambient temperature	0 to 50 °C, storage: -20 to 60 °C
	Ambient humidity	35 to 85%RH, storage: 35 to 85%RH
Approval		CE
Unit weight		Approx. 700 g

Furnace Accessory

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Model No.	Size (ml.LxWxH)	Temp-Limit
SH-QB-2	2ml, 15x48x8mm / 0.59x1.89x0.31"	Operation Temp 1100°C Max Temp 1250°C
SH-QB-3	3ml, 16x77x11mm / 0.63x3.03x0.43"	
SH-QB-5	5ml, 20x77x11mm / 0.79x3.03x0.43"	
SH-QB-8	8ml, 20x92x11mm / 0.79x3.62x0.43"	
SH-QB-10	10ml, 20x102x11mm / 0.79x4.02x0.43"	
SH-QB-15	15ml, 27x105x11mm / 1.06x4.13x0.43"	



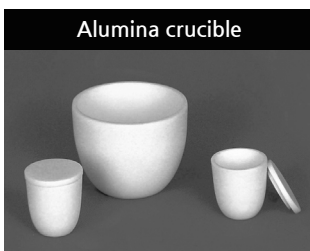
Model No.	Capa(ml)	Size	Temp-Limit
SH-QC-30	30 ml	ø47, ø25xh36mm	Operation Temp 1100°C Max Temp 1250°C
SH-QC-50	50 ml	ø54, ø34xh42mm	
SH-QC-100	100 ml	ø70, ø34xh55mm	
SH-QC-250	250 ml	ø110, ø50xh80mm	
SH-QC-500	500 ml	ø130, ø70xh100mm	



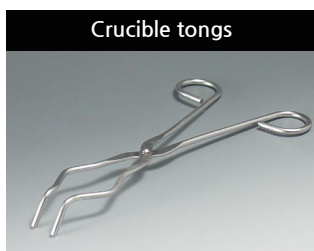
BODY			Lid	
Model No.	Capa(ml)	Size	Model No.	Capa(mm)
SH-CC-15B	15 ml	ø36xh30mm	SH-CC-15L	15 ml
SH-CC-30B	30 ml	ø45xh40mm	SH-CC-30L	30 ml
SH-CC-50B	50ml	ø54xh42mm	SH-CC-50L	50 ml
SH-CC-100B	100 ml	ø65xh53mm	SH-CC-100L	100 ml
SH-CC-155B	155 ml	ø70xh62mm	SH-CC-155L	155 ml
SH-CC-280B	280 ml	ø87xh70mm	SH-CC-280L	280 ml



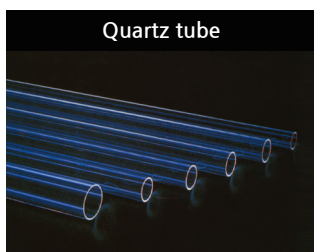
Model No.	Capa(ml)	Size	Temp-Limit
SH-NC-30	30 ml	ø38xh38mm	Operation Temp 600~1000°C
SH-NC-50	50 ml	ø48xh48mm	
SH-NC-100	100 ml	ø55xh55mm	



Model No.	Capacity(ml)	Size	Max Temp	Lid	
				Model No.	Capa(mm)
SH-ALC-10	10 ml	ø29xh30mm	1700°C	SH-CC-15L	15 ml
SH-ALC-20	20 ml	ø39xh29mm		SH-CC-30L	30 ml
SH-ALC-30	30 ml	ø52xh39mm		SH-CC-50L	50 ml
SH-ALC-50	50 ml	ø61xh49mm		SH-CC-100L	100 ml
SH-ALC-100	100 ml	ø72xh58mm		SH-CC-155L	155 ml
SH-ALC-150	150 ml	ø81xh67mm		SH-CC-280L	280 ml
SH-ALC-200	200 ml	ø86xh70mm			
SH-ALC-250	250 ml	ø92xh75mm			
SH-ALC-500	500 ml	ø110xh105mm			



Model No.	Opening Size(Φ)	Length
SH-CT-300	2~30 Φ	300mm / 11.81"
SH-CT-400	2~30 Φ	400mm / 15.75"
SH-CT-500	2~30 Φ	500mm / 19.69"



Model No.	Size(I,D/O,D×L)
SH-QT-50	46/50×1000mm / 1.81/1.97×39.37"
SH-QT-60	55/60×1000mm / 2.17/2.36×39.37"
SH-QT-80	74/80×1000mm / 2.91/3.15×39.37"
SH-QT-100	94/100×1000mm / 3.70/3.94×39.37"
SH-QT-120	114/120×1000mm / 4.49/4.72×39.37"



Model No.	Temp-Limit
SH-SG-500	Max 500°C
SH-SG-900	Max 900°C



Model No.	Size(I,D/O,D×L)	Alumina Purity : OVER 98%
SH-AT-25	20/25x1000mm / 0.79/0.98x39.37"	
SH-AT-30	24/30x1000mm / 0.94/1.18x39.37"	
SH-AT-35	28/35x1000mm / 1.10/1.38x39.37"	
SH-AT-50	42/50x1000mm / 1.65/1.97x39.37"	
SH-AT-60	50/60x1000mm / 1.97/2.36x39.37"	
SH-AT-70	60/70x1000mm / 2.36/2.76x39.37"	
SH-AT-80	70/80x1000mm / 2.76/3.15x39.37"	
SH-AT-90	80/90x1000mm / 3.15/3.54x39.37"	
SH-AT-100	88/100x1000mm / 3.46/3.94x39.37"	
SH-AT-120	110/120x1000mm / 4.33/4.72x39.37"	