

INSTRUGRAM VENTURES



DEVELOPERS & MANUFACTURERS

WE PROVIDE CREDIBLE AFTER SALES SUPPORT WITH HELP OF TRAINED AND QUALIFIED TECHNICIANS. THIS ENSURES THAT YOUR PRODUCTS IS MAINTAINED WELL AND IS ALWAYS IN BEST OF THE SHAPE TO OFFER EXCEPTIONAL PERFORMANCE.

WWW.INSTRUGRAMVENTURES.COM



products@instrugramventures.com



+91 97574 12434

MUFFLE FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1800°C.
- ◆ Dimensions from 1 up to 200litres.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Parallel guided swing aside door design.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, SiC and MoSi2 in both sides providing fast heating rate. Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.

OPTIONAL

- ◆ Over Temperature/Over Current Limiter
- ◆ Touchscreen temperature controller
- ◆ Port for additional thermocouple.
- ◆ Process observation window.
- ◆ Chimney for forced air extraction.
- ◆ Additional ceramic/SiC bottom plate.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Gas purging facility Table for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.
- ◆ Door safety switch.



MUFFLE FURNACE

Model	Tmax °C	Chamber Dimension (IN MM)			Overall Dimension (IN MM)			TUBE SIZE			Heating Elements	Voltage (V)	Power (KW)
		W	L	H	W	L	H	OD	ID	L			
IGV/MT1000/1	1050	100	100	100	420	470	550	50	45	350	Kanthal A1	230	2.3
IGV/MT1050/4.5	1050	150	200	150	470	520	610	60	55	400	Kanthal A1	230	2.76
IGV/MT1150/8	1150	200	200	200	540	550	650	70	65	400	Kanthal A1	230	4.6
IGV/MT1150/27	1150	300	300	300	640	650	750	100	95	450	Kanthal A1	415	10.7
IGV/MT1450/4.5	1450	150	200	150	530	600	630	60	50	500	SiC	230	4.1
IGV/MT1450/8	1450	200	200	200	580	600	730	80	70	550	SiC	230	5.06
IGV/MT1450/27	1450	300	300	300	680	700	880	100	90	600	SiC	415	12.9
IGV/MF1650/4.5	1650	150	200	150	550	600	780	60	50	500	MoSi2	230	4.1
IGV/MT1650/8	1650	200	200	200	600	600	830	80	70	600	MoSi2	230	5.06
IGV/MT1650/27	1650	300	300	300	680	700	950	100	90	700	MoSi2	415	10

APPLICATIONS

Muffle Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Chemical Industries, Plastic Industry, Moulding Industry, Glass Industry, Rubber Industry, Ceramics Industry, Biomedical Industry, Paint Industry, Textile Materials, Pharma Industry, Dental Labs, Thermal Process Technology, Advanced Materials for following applications, Testing, Analysing, Ashing, Drying, Sintering, Annealing, Melting, Tempering, Hardening, Dental Porcelain, and Crystalizing etc.

TUBE FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1800°C.
- ◆ Available in, Horizontal operation, Vertical operation, universal operation.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Alumina/Quartz/Metal tube with two fibre plugs included.
- ◆ Inner diameter of the tube from 20mm to 150mm.
- ◆ Heated Length from 100mm to 1000mm.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, SiC and MoSi2 in all sides of the work tube providing fast heating rate.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.



OPTIONAL

- ◆ Multi-zone temperature control.
- ◆ Touchscreen temperature controller.
- ◆ Over Temperature Limiter.
- ◆ Vacuum pump with fittings.
- ◆ Gas and Vacuum Compatible Flanges, Water cooled flanges with chiller.
- ◆ Door flanges with hinges.
- ◆ Gas mixing system.
- ◆ Digital/Analog flowmeters.
- ◆ Port for additional thermocouple on the flange.
- ◆ Process observation window on flange.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.

TUBE FURNACE

Model	NO OF ZONES	Tmax °C	Chamber Dimension (IN MM)		Overall Dimension (IN MM)			Heating Elements	Voltage (V)	Power (KW)
			ID	L	W	L	H			
IGV/T1150-1/50*200	1	1150	50	200	480	410	570	Kanthal A1	230	2.3
IGV/T1150-2/50*200	2	1150	50	200	730	410	570	Kanthal A1	230	4.6
IGV/T1150-3/50*200	3	1150	50	200	980	450	670	Kanthal A1	415	7.18
IGV/T1150-1/60*250	1	1150	60	250	500	420	600	Kanthal A1	230	2.76
IGV/T1150-2/60*250	2	1150	60	250	800	420	600	Kanthal A1	230	5.5
IGV/T1150-3/60*250	3	1150	60	250	1100	470	700	Kanthal A1	415	8.62
IGV/T1150-1/80*300	1	1150	80	300	580	430	600	Kanthal A1	230	3.45
IGV/T1450-1/50*200	1	1450	50	200	530	450	660	SiC	230	3.45
IGV/T1450-1/60*250	1	1450	60	250	580	470	670	SiC	230	4.14
IGV/T1450-2/60*250	2	1450	60	250	905	510	640	SiC	415	10.78
IGV/T1450-3/60*250	3	1450	60	250	1230	510	640	SiC	415	12.93
IGV/T1450-1/70*300	1	1450	70	300	630	470	670	SiC	230	5.06
IGV/T1450-2/70*300	2	1450	70	300	1030	550	670	SiC	415	11.5
IGV/T1450-3/70*300	3	1450	70	300	1430	550	670	SiC	415	14.37
IGV/T1650-1/60*250	1	1650	60	250	580	490	780	MoSi2	230	3.45
IGV/T1650-2/60*250	2	1650	60	250	930	490	780	MoSi2	230	6.9
IGV/T1650-3/60*250	3	1650	60	250	1280	490	780	MoSi2	415	10.78
IGV/T1650-1/80*300	1	1650	80	300	630	500	805	MoSi2	230	4.6

APPLICATIONS

Tube Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Chemical Industries, Ceramics Industry, Biomedical Industry, Pharma Industry, Thermal Process Technology, Advanced Materials for following applications- Purification, Coating, Drying, Hardening or Ageing of samples, Annealing, Brazing, Calcination, Degassing, Sintering, Tempering, Thermocouple calibration, Testing of fuel cells, Catalyst research, Inorganic and Organic purification, Coating etc.

SPLIT TUBE FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1500°C.
- ◆ Available in, Horizontal operation, Vertical operation, universal operation.
- ◆ Furnace split into two halves.
- ◆ Split design allows to insert tubes with large flanges.
- ◆ Accelerate cooling of furnace and tube by opening hinges casing.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Alumina/Quartz/Metal tube with two fibre plugs included.
- ◆ Inner diameter of the tube from 20mm to 150mm.
- ◆ Heated Length from 100mm to 1000mm.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, and SiC in all sides of the work tube providing fast heating rate.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.



OPTIONAL

- ◆ Multi-zone temperature control.
- ◆ Touchscreen temperature controller.
- ◆ Over Temperature Limiter.
- ◆ Vacuum pump with fittings.
- ◆ Gas and Vacuum Compatible Flanges, Water cooled flanges with chiller.
- ◆ Door flanges with hinges.
- ◆ Gas mixing system.
- ◆ Digital/Analog flowmeters.
- ◆ Port for additional thermocouple on the flange.
- ◆ Process observation window on flange.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.
- ◆ Door safety switch.

SPLIT TUBE FURNACE

Model	NO OF ZONES	Tmax °C	Chamber Dimension (IN MM)		Overall Dimension (IN MM)			Heating Elements	Voltage (V)	Power (KW)
			ID	L	W	L	H			
IGV/ST1150-1/50*200	1	1150	50	200	500	400	570	Kanthal A1	230	2.3
IGV/ST1150-1/60*250	1	1150	60	250	530	410	580	Kanthal A1	230	2.76
IGV/ST1150-2/60*250	2	1150	60	250	855	410	580	Kanthal A1	230	5.52
IGV/ST1150-3/60*250	3	1150	60	250	1180	450	610	Kanthal A1	415	8.62
IGV/ST1150-1/80*300	1	1150	80	300	580	430	600	Kanthal A1	230	3.45
IGV/ST1150-2/80*300	2	1150	80	300	980	450	600	Kanthal A1	230	6.9
IGV/ST1150-3/80*300	3	1150	80	300	1380	450	620	Kanthal A1	415	10.78
IGV/ST1450-1/60*250	1	1450	60	250	580	530	630	SiC	230	4.14
IGV/ST1450-2/60*250	2	1450	60	250	930	530	630	SiC	415	12.93
IGV/ST1450-3/60*250	3	1450	60	250	1280	600	70	SiC	415	14.37
IGV/ST1450-1/80*300	1	1450	80	300	630	530	660	SiC	230	4.6
IGV/ST1450-2/80*300	2	1450	80	300	1030	550	700	SiC	415	13.65
IGV/ST1450-3/80*300	3	1450	80	300	1430	550	700	SiC	415	15.81

APPLICATIONS

Split Tube Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Chemical Industries, Ceramics Industry, Biomedical Industry, Pharma Industry, Thermal Process Technology, Advanced Materials for following applications- Purification, Coating, Drying, Hardening or Ageing of samples, Annealing, Brazing, Calcination, Degassing, Sintering, Tempering, Thermocouple calibration, Testing of fuel cells, Catalyst research, Inorganic and Organic purification, Coating etc.

RAISING HEARTH FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1800°C
- ◆ Dimensions from 1 up to 64litres.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Reliable vibration free bottom lifting with electro-mechanical movement Prepared to carry heavy charge weight.
- ◆ Hot raising by hydraulic.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, SiC and MoSi2 installed in four walls of the chamber providing fast heating rate and excellent temperature uniformity.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.



OPTIONAL

- ◆ Over Temperature/Over Current Limiter.
- ◆ Touchscreen temperature controller.
- ◆ Port for additional thermocouple on top or rear wall of the furnace.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.
- ◆ Door safety switch.

RAISING HEARTH FURNACE

Model	Tmax °C	Chamber Dimension (IN MM)			Overall Dimension (IN MM)			Heating Elements	Voltage (V)	Power (KW)
		W	L	H	W	L	H			
IGV/RH1150/1.5	1150	100	100	150	450	610	910	Kanthal A1	230	2.5
IGV/RH1150/4.5	1150	150	150	200	500	660	960	Kanthal A1	230	2.76
IGV/RH1150/12	1150	200	200	300	540	710	1050	Kanthal A1	230	4.6
IGV/RH1450/1.5	1450	100	100	150	490	690	1010	SiC	230	3.6
IGV/RH1450/4.5	1450	150	150	200	540	740	1060	SiC	230	4.1
IGV/RH1450/12	1450	200	200	300	600	750	1210	SiC	415	9.1
IGV/RH1650/4.5	1650	150	150	200	550	670	1100	MoSi2	230	4.1
IGV/RH1650/12	1650	200	200	300	600	720	1250	MoSi2	415	10.7
IGV/RH1800/4.5	1800	150	150	200	550	670	1100	MoSi2	230	4.6
IGV/RH1800/12	1800	200	200	300	600	720	1250	MoSi2	415	12.2

APPLICATIONS

Raising Hearth Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Thermal Process Technology, Dental Labs, Advanced Materials for following applications- Drying, Hardening, Annealing, Brazing, Sintering, Research, Heat treatment, Dental crowns and frameworks etc.

DENTAL FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1600°C
 - ◆ Dimensions from 1 up to 64litres.
 - ◆ Compact design for minimum space requirement.
 - ◆ Rugged and durable construction.
 - ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
 - ◆ Prepared to carry heavy charge weight.
 - ◆ High mechanical durability, short heating cycle and low power consumption.
 - ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
 - ◆ Hot raising by hydraulic.
 - ◆ Sintering trays are filled with a bed of zirconium supports beads. These trays are design to fit exactly on furnace hearth.
 - ◆ The bed of zirconia beads allows sintering process with low friction and result in distortion-free frameworks.
 - ◆ Exhaust air vent in roof.
 - ◆ Precise, Motorised operation of the hearth with button.
 - ◆ Reliable vibration free bottom lifting with electro-mechanical movement.
 - ◆ Fast heat up and cool down rates.
 - ◆ In contrasts to SiC/MoSi2 heating elements, these are free from any chemical interaction with zirconium oxide.
 - ◆ Due to all round furnace chamber heating, high process stability and excellent temperature uniformity up to +/- 5°C
- Temperature control with PID controllers.
Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.

OPTIONAL

- ◆ Touch screen temperature controller
- ◆ Over Temperature/Over Current Limiter.
- ◆ Port for additional thermocouple on top or rear wall of the furnace.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ Spare sinter trays and support beads.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.
- ◆ Door safety switch.



DENTAL FURNACE

Model	T _{max} °C	Chamber Dimension (IN MM)			Overall Dimension (IN MM)			Heating Element	Voltage (V)	Power (KW)
		W	L	H	W	L	H			
IGV/D1600/1	1600	100	100	100	500	620	950	MoSi2	230	2.7
IGV/D1600/1.5	1600	100	100	150	500	620	1000	MoSi2	230	3.4
IGV/D1600/2	1600	100	100	200	500	620	1050	MoSi2	230	4.1

APPLICATIONS

Dental Furnace is designed for R&D labs, Educational institutions, Thermal Process Technology, Dental Labs, and Advanced Materials for following applications-
Drying, Hardening, Sintering, Research, Heat treatment, Dental crowns and frameworks etc.

ROCKING FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1300°C
- ◆ Designed for heating or melting to get more uniform reaction.
- ◆ The Rocking stage can set rocking frequency and time for automatically running.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Alumina/Quartz/Metal tube with two fibre plugs included.
- ◆ Inner diameter of the tube from 20mm to 100mm.
- ◆ Heated Length from 100mm to 500mm.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, in all sides of the work tube providing fast heating rate. Motorised, vibration free rocking operation.
- ◆ Adjustable speed up to 50RPM.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.



OPTIONAL

- ◆ Multi-zone temperature control.
- ◆ Touch screen temperature controller.
- ◆ Over Temperature/Over Current Limiter.
- ◆ Vacuum pump with fittings.
- ◆ Gas and Vacuum Compatible Flanges, Water cooled flanges with chiller.
- ◆ Door flanges with hinges.
- ◆ Gas and Vacuum control accessories.
- ◆ Gas mixing system.
- ◆ Digital/Analog flowmeters.
- ◆ Port for additional thermocouple on the flange.
- ◆ Process observation window on flange.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.

ROCKING FURNACE

Model	NO OF ZONES	Tmax °C	Chamber Dimension (IN MM)		Overall Dimension (IN MM)			Heating Elements	Voltage (V)	Power (KW)
			ID	L	W	L	H			
IGV/RC1150-1/50*200	1	1150	50	200	480	410	720	Kanthal A1	230	2.3
IGV/RC1150-2/50*200	2	1150	50	200	730	410	720	Kanthal A1	230	4.6
IGV/RC1150-3/50*200	3	1150	50	200	980	450	870	Kanthal A1	415	7.18
IGV/RC1150-1/60*250	1	1150	60	250	500	420	750	Kanthal A1	230	2.76
IGV/RC1150-2/60*250	2	1150	60	250	800	420	800	Kanthal A1	230	5.5
IGV/RC1150-3/60*250	3	1150	60	250	1100	470	900	Kanthal A1	415	8.62
IGV/RC1150-1/80*300	1	1150	80	300	580	430	800	Kanthal A1	230	3.45

APPLICATIONS

Rocking Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Chemical Industries, Biomedical Industry, Pharma Industry, Thermal Process Technology, Advanced Materials for following applications-

Mixturing, Purification, Coating, Drying, Degassing, Sintering, Tempering, Catalyst research, Inorganic and Organic purification, Coating etc.

ROTARY TUBE FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1500°C.
- ◆ The rotary tube furnace allows samples to be heated and mixed simultaneously in a controlled atmosphere. Furnace split into two halves.
- ◆ The design of split furnace allows Work tube to be easily removed and replaced. Split design allows to insert tubes with large flanges.
- ◆ Split cover enables faster cooling and easy operation. Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Working tube made of either ceramic, quartz, or a high-temperature alloy with two fibre plugs included.
- ◆ Inner diameter of the tube from 20mm to 150mm.
- ◆ Heated Length from 100mm to 1000mm.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, and SiC in all sides of the work tube providing fast heating rate.
- ◆ Adjustable inclination angle up to 30 °.
- ◆ Variable speed control system up to 20RPM.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.

OPTIONAL

- ◆ Multi-zone temperature control.
- ◆ Touchscreen temperature controller.
- ◆ Over Temperature/Over Current Limiter.
- ◆ Vacuum pump with fittings.
- ◆ Gas and Vacuum Compatible Flanges, Water cooled flanges with chiller.
- ◆ Door flanges with hinges.
- ◆ Gas and Vacuum control accessories.
- ◆ Gas mixing system Digital/Analog flowmeters.
- ◆ Port for additional thermocouple on the flange.
- ◆ Process observation window on flange.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.



ROTARY TUBE FURNACE

Model	NO OF ZONES	Tmax °C	Chamber Dimension (IN MM)		Overall Dimension (IN MM)			Heating Elements	Voltage (V)	Power (KW)
			ID	L	W	L	H			
IGV/RT1150-1/80*300	1	1150	80	300	580	430	900	Kanthal A1	230	3.45
IGV/RT1150-2/80*300	2	1150	80	300	980	450	900	Kanthal A1	230	6.9
IGV/RT1150-3/80*300	3	1150	80	300	1380	450	900	Kanthal A1	415	10.78
IGV/RT1450-1/80*300	1	1450	80	300	630	530	1050	SiC	230	4.6
IGV/RT1450-2/80*300	2	1450	80	300	1030	550	1050	SiC	415	13.65
IGV/RT1450-3/80*300	3	1450	80	300	1430	550	1050	SiC	415	15.81
IGV/RT1650-1/80*300	1	1650	80	300	630	550	1050	Mosi2	415	8.6
IGV/RT1650-2/80*300	2	1650	80	300	1030	550	1050	Mosi2	415	17.2
IGV/RT1650-3/80*300	3	1650	80	300	1430	600	1100	Mosi2	415	25.8

APPLICATIONS

Rotary Tube Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Chemical Industries, Ceramics Industry, Biomedical Industry, Pharma Industry, Thermal Process Technology, Advanced Materials for following applications- Purification, Pyrolysis, Carburization, Solid state reaction, Waste remediation, Drying, Thermal recycling, Calcination, Oxidation, Reduction etc.

CRYSTAL GROWTH FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1500°C.
- ◆ The Bridgman method uses that sample moves slowly through a temperature gradient in vertical tubular furnace.
- ◆ The melted material moves through a decreasing temperature gradient and forms a single crystal.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, SiC in all sides of the work tube providing fast heating rate.
- ◆ In this system tube furnace mounted on stand with the pulling device.
- ◆ Precisely defined and controlled pulling speed.
- ◆ The movement of the sample can be fast for loading and unloading or with a user defined speed for crystal growth.
- ◆ Pooling device moves the sample with an adjustable speed toward the lower temperature.
- ◆ Alumina/Quartz/Metal ceramic tube surrounds the sample.
- ◆ Inner diameter of the tube from 50mm to 100mm.
- ◆ Heated Length from 100mm to 1000mm.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.
- ◆ Auto and manual both operations possible with servo motor and driver.

OPTIONAL

- ◆ Multi-zone temperature control
- ◆ Touchscreen temperature controller.
- ◆ Over Temperature/Over Current Limiter.
- ◆ Gas and Vacuum Compatible Flanges, Water cooled flanges with chiller.
- ◆ Gas and Vacuum control accessories.
- ◆ Port for additional thermocouple on the flange.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.



APPLICATIONS

Bridgman type Furnace is designed for R&D labs, Medicine and Industry, Pharma Industry, Thermal Process Technology, Advanced Materials for following applications-
For crystal growth process.

TOP LOADING FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1450°C.
- ◆ Available in various capacity, from 3litres to 250litres.
- ◆ As the name states itself, top loading furnaces are made vertical heating chambers; where material or crucible is put from top.
- ◆ Door is fitted on top, which is lift up to open and put down to close.
- ◆ Usually such furnaces are used to put crucibles; therefore, these furnaces are also called crucible furnace.
- ◆ These Top loading chamber furnaces are particularly suited for applications involving tall crucibles and heavy components.
- ◆ Top cover allows better heat shielding and more uniform heating area.
- ◆ Top opening provides good ventilation inside the chamber and allow the furnace to fast cooling.
- ◆ Ideal for heavy components and provides safety in loading/Unloading.
- ◆ Sturdy, locking castors for easy movement of the system.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, and SiC in all sides of the work tube providing fast heating rate.
- ◆ Heating elements in all four walls minimise the risk of damage from, spills and ensure good temperature uniformity.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.



OPTIONAL

- ◆ Over temperature/Over current Limiter.
- ◆ Touchscreen temperature controller.
- ◆ Process observation window.
- ◆ Chimney for forced air extraction.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.
- ◆ Door safety switch.

TOP LOADING FURNACE

Model	Tmax °C	Chamber Dimension (IN MM)			Overall Dimension (IN MM)			Heating Elements	Voltage (V)	Power (KW)
		W	L	H	W	L	H			
IGV/TL1000/1	1000	100	100	100	420	450	550	Kanthal A1	230	2.3
IGV/TL1150/4.5	1150	150	150	200	490	560	680	Kanthal A1	230	2.76
IGV/TL1150/12	1150	200	200	300	540	610	780	Kanthal A1	415	7.18
IGV/TL1150/27	1150	300	300	300	640	710	780	Kanthal A1	415	10
IGV/TL1150/91	1150	450	450	450	840	910	1150	Kanthal A1	415	12.93
IGV/TL1150/121	1150	450	450	600	840	910	910	Kanthal A1	415	15.81
IGV/TL1150/216	1150	600	600	600	990	1060	1100	Kanthal A1	415	20.12
IGV/TL1450/4.5	1450	150	150	200	550	620	860	SiC	230	4.1
IGV/TL1450/12	1450	200	200	300	610	670	960	SiC	415	8.62
IGV/TL1450/27	1450	300	300	300	710	770	960	SiC	415	12.93
IGV/TL1450/40	1450	300	300	450	710	770	1110	SiC	415	15.81

APPLICATIONS

Top Loading Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Ceramics Industry, Biomedical Industry, Glass industry Pharma Industry, Thermal Process Technology, Advanced Materials for following applications-

Drying, Hardening, Annealing, Brazing, Degassing, Sintering, Tempering, , Testing of fuel cells, Inorganic and Organic purification, Heat treatment, Stress relieving, Component Testing, Preliminary Heating, Loosening, Normalising, Melting etc.

VACCUM FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1800°C.
- ◆ Depending upon application, a tube furnace can be designed in many sizes and shapes; most commonly these units are classified as Horizontal Tube Furnace, Vertical Tube Furnace, Horizontal split Tube Furnace, Vertical split Tube Furnace, Muffle Cum Tube Furnace.
- ◆ Capable of 10^{-5} mbar vacuum in a clean empty work tube.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ High Purity Alumina/Quartz/Metal tube with two fibre plugs included.
- ◆ Inner diameter of the tube from 20mm to 150mm.
- ◆ Heated Length from 100mm to 1000mm.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, SiC and MoSi₂ in all sides of the work tube providing fast heating rate. Vacuum provide by turbo molecular pump/Rotary vane pump with pirani/penning gauges and related fittings.
- ◆ Work tube connects with the vacuum system via stainless steel below pipe.
- ◆ Access to the work tube can be removable via stainless steel vacuum flanges.
- ◆ Radiation shields at both end of the work tube to maintain uniformity without reducing pump speed.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.

OPTIONAL

- ◆ Multi-zone temperature control
- ◆ Touchscreen temperature controller.
- ◆ Over Temperature Limiter.
- ◆ Vacuum pump with fittings
- ◆ Gas and Vacuum Compatible Flanges, Water cooled flanges with chiller.
- ◆ Door flanges with hinges.
- ◆ Gas mixing system.
- ◆ Vacuum pump with fittings.
- ◆ Port for additional thermocouple on the flange.
- ◆ Process observation window on flange.
- ◆ Buzzer, Digital timer, Emergency shutdown.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.



APPLICATIONS

Vacuum Tube Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Chemical Industries, Biomedical Industry, Pharma Industry, Thermal Process Technology, Advanced Materials for following applications- Chemical analysis, Physical decomposition, sublimation, Purification, Coating, Drying, Hardening or Ageing of samples, Brazing, Calcination, Degassing, Sintering, Tempering, Testing of fuel cells, Catalyst research, Inorganic and Organic purification, Coating etc.

CVD FURNACES

FEATURES

- ◆ Maximum operating temperature range up to 1200°C.
- ◆ The CVD furnace workstation consists Split Tube/Tube furnace, a precision mass flow gas control station, a high vacuum station, and other assembling parts.
- ◆ The mass flow gas control station mixes multiple gases together and allows the mixed gas to flow into a fused quartz tube inside the furnace.
- ◆ Processing tube is included Inner diameter of the tube from 40mm to 150mm, with vacuum stainless steel flanges, Vacuum compatible sample puller rod, vacuum valves, Viton O-rings, Pirani/Penning gauge and Mechanical pressure gauge. Heated Length from 100mm to 1000mm.
- ◆ Capable of 10^{-5} mbar vacuum in a clean empty work tube.
- ◆ High vacuum station consists turbo molecular pump/Rotary vane pump with related vacuum fittings.
- ◆ Mass flow gas control station consists multiple Mass flow controllers, Gas mixing system and related pipe fittings.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl and SiC in all sides of the work tube providing fast heating rate
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or Thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.

OPTIONAL

- ◆ Multi-zone temperature control
- ◆ Touchscreen temperature controller
- ◆ Over Temperature Limiter.
- ◆ Door flanges with hinges.
- ◆ Water cooled flanges with chiller.
- ◆ Digital/Analog flowmeters.
- ◆ Port for additional thermocouple on the flange.
- ◆ Process observation window on flange.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.



APPLICATIONS

CVD Furnace is designed for R&D labs, Educational institutions, Medicine and Industry, Aerospace industry, Semiconductor industry, Chemical Industries, Biomedical Industry, Pharma Industry, glass Industry, Thermal Process Technology, Advanced Materials for following

Applications-

Chemical analysis, Graphene, Optical Fibre, Composition, Deposition, Diffusion, Coating, Degassing, Sintering, Catalyst research, Carbon nanotechnology process etc.

MUFFLE CUM TUBE FURNACE

FEATURES

- ◆ Maximum operating temperature range up to 1800°C.
- ◆ User can be uses both ways either Muffle or Tube furnace.
- ◆ Dimensions from 1litre up to 27 litres.
- ◆ Compact design for minimum space requirement.
- ◆ Rugged and durable Construction.
- ◆ Outer casing is made up thick mild steel with duly powder coated or thick buffed stainless steel, gives long service life with extremely resistant.
- ◆ Multilayer insulation with vacuum formed ceramic fibre or refractory bricks with low thermal mass.
- ◆ Parallel guided swing aside door design.
- ◆ Half End Open Alumina/Quartz/Metal tube with two fibre plugs included.
- ◆ Inner diameter of the tube from 20mm to 150mm.
- ◆ Heated Length from 100mm to 300mm.
- ◆ Furnace design with powerful heating elements i.e. FeCrAl, SiC and MoSi2 in both sides providing fast heating rate.
- ◆ Fast heat up and cool down rates.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Power control with solid state relays or thyristor units for very precise temperature Control, wear-free and noiseless.
- ◆ High mechanical durability, short heating cycle and low power consumption.

OPTIONAL

- ◆ Over Temperature/Over Current Limiter
- ◆ Touchscreen temperature controller.
- ◆ Vacuum pump with fittings.
- ◆ Gas and Vacuum Compatible Flanges, Water cooled flanges with chiller.
- ◆ Door flanges with hinges.
- ◆ Gas mixing system.
- ◆ Digital/Analog flowmeters.
- ◆ Port for additional thermocouple on the flange.
- ◆ Process observation window on flange.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table/Stand for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.
- ◆ Door safety switch



MUFFLE CUM TUBE FURNACE

Model	Tmax °C	Chamber Dimension (IN MM)			Overall Dimension (IN MM)			TUBE SIZE			Heating Elements	Voltage (V)	Power (KW)
		W	L	H	W	L	H	OD	ID	L			
IGV/MT1000/1	1050	100	100	100	420	470	550	50	45	350	Kanthal A1	230	2.3
IGV/MT1050/4.5	1050	150	200	150	470	520	610	60	55	400	Kanthal A1	230	2.76
IGV/MT1150/8	1150	200	200	200	540	550	650	70	65	400	Kanthal A1	230	4.6
IGV/MT1150/27	1150	300	300	300	640	650	750	100	95	450	Kanthal A1	415	10.7
IGV/MT1450/4.5	1450	150	200	150	530	600	630	60	50	500	SiC	230	4.1
IGV/MT1450/8	1450	200	200	200	580	600	730	80	70	550	SiC	230	5.06
IGV/MT1450/27	1450	300	300	300	680	700	880	100	90	600	SiC	415	12.9
IGV/MF1650/4.5	1650	150	200	150	550	600	780	60	50	500	MoSi2	230	4.1
IGV/MT1650/8	1650	200	200	200	600	600	830	80	70	600	MoSi2	230	5.06
IGV/MT1650/27	1650	300	300	300	680	700	950	100	90	700	MoSi2	415	10

APPLICATIONS

Muffle Cum Tube Furnace is designed for R&D labs, Educational institutions , Medicine and Industry, Chemical Industries, Plastic Industry, Moulding Industry, Glass Industry, Rubber Industry, Ceramics Industry, Biomedical Industry, Paint Industry, Textile Materials, Pharma Industry, Dental Labs, Thermal Process Technology, Advanced Materials for following applications, Testing, Purification, Coating, Analysing, Ashing, Drying, Sintering, Annealing, Brazing, Calcination, Degassing, Melting, Tempering, Hardening, Testing of fuel cells, Catalyst research, Inorganic and Organic purification, Dental Porcelain, and Crystalizing etc.

HOT AIR OVEN

FEATURES

- ◆ Maximum operating temperature range up to 400°C
- ◆ Compact design for minimum space requirement.
- ◆ Dimensions from 27 up to 324litres.
- ◆ Outer casing is made up thick mild steel with duly powder coated.
- ◆ Interior chamber is fabricated of stainless steel SS304/SS316 with mat finish.
- ◆ Chamber is provided with effective air circulation system for uniform temperature.
- ◆ The door is sealed with a silicon sponge rubber gasket.
- ◆ Long lasting U Shaped SS tubular heater.
- ◆ PT 100 Sensor (3 Wires) for Temperature Sensor.
- ◆ Control panel with all the electrical accessories is mounted on the top for easy access and service.
- ◆ Temperature uniformity +/- 5°C.
- ◆ Temperature control with PID controllers.
- ◆ Electro polished heavy duty Stainless Steel SS304 wire mesh trays are provided.
- ◆ High mechanical durability, short heating cycle and low power consumption.

OPTIONAL

- ◆ Over Temperature/Over Current Limiter.
- ◆ Port for additional sensor for monitoring.
- ◆ Additional Trays.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.
- ◆ Door safety switch.



HOT AIR OVEN

Model	Tmax °C	Chamber Dimension (IN MM)			Overall Dimension (IN MM)			Heating Elements	Voltage (V)	Power (KW)
		W	L	H	W	L	H			
IGV/HO/27	300	300	300	300	500	550	800	NiCr	230	1
IGV/HO/42	300	350	350	350	550	600	850	NiCr	230	1.2
IGV/HO/90	300	450	450	450	650	700	950	NiCr	230	1.5
IGV/HO/120	300	450	450	600	650	700	1050	NiCr	230	1.8
IGV/HO/215	300	600	600	600	900	850	1050	NiCr	230	2.1
IGV/HO/324	300	600	600	900	900	850	1350	NiCr	230	2.7

APPLICATIONS

Food industry, Pharmaceuticals Industry, College laboratory, Hospitals, Textile industry, Bandages making, Microbiology and Chemical laboratory, Plastic Industry, Moulding Industry, Rubber Industry, Ceramics Industry, Paint Industry, Dental Labs, Thermal Process Technology, Advanced Materials for following applications, Sterilization, Heat treatment, Drying Process, Baking, Annealing, , Sintering, Hardening, Dental Porcelain Etc.

VACCUM OVEN

FEATURES

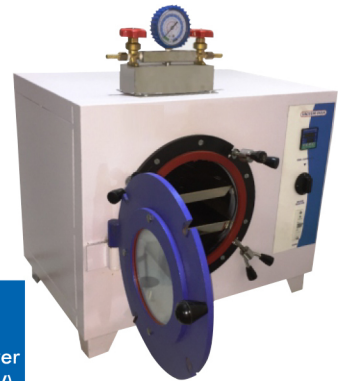
- ◆ Maximum operating temperature range up to 300°C.
 - ◆ Dimensions from 12 up to 216 litres.
 - ◆ Available in round and rectangular shape.
 - ◆ Compact design for minimum space requirement.
 - ◆ Outer casing is made up thick mild steel with duly powder coated.
 - ◆ Interior chamber is fabricated of stainless steel SS304/SS316 with mat finish.
 - ◆ All seams are argon welded and then polished giving it a mirror finish.
 - ◆ The heater coil is wound around over the circumference of inner chamber of the vacuum oven.
 - ◆ Selector switch can be set at the required position depending on the temperature.
 - ◆ Long lasting U Shaped SS tubular heater.
 - ◆ PT 100 Sensor (3 Wires) for Temperature Sensor.
 - ◆ Analog type vacuum gauge with maximum vacuum up to 760 mm Hg.
 - ◆ Separate valves are provided for both the valves that is vacuum valve & release valve.
 - ◆ Vacuum valve is used to vacuum the air from inside the inner chamber by connecting a vacuum pump and release valve is used to release the vacuum from inside by gently turning the knob.
 - ◆ Door is provided with a toughened glass window for viewing the samples inside the chamber.
 - ◆ Door is fitted with a long lasting moulded silicon gasket and a positive latch to maintain a seal on the level of vacuum.
- Heavy duty Stainless Steel SS304 trays are provided.

OPTIONAL

- ◆ Over Temperature/Over Current Limiter.
- ◆ Port for additional sensor for monitoring.
- ◆ Additional Trays.
- ◆ Turbo vacuum pump with fittings.
- ◆ Buzzer, Digital timer, Emergency shut down.
- ◆ Data Recorder.
- ◆ RS232/RS485/USB interface.
- ◆ Calibration of temperature measurement systems.
- ◆ Table for supporting the systems.
- ◆ Data Acquisition System (DAS) through software.
- ◆ UPS Systems.
- ◆ Customization as per user requirement.
- ◆ Caster wheels with brakes.
- ◆ Door safety switch.

VACCUM OVEN ROUND

Model	Tmax °C	Chamber Dimension (IN MM)		Heating Elements	Voltage (V)	Power (KW)
		DIA	DEPTH			
IGV/VORO/12	300	300	300	NiCr	230	1.1
IGV/VORO/21	300	300	300	NiCr	230	1.4
IGV/VORO/27	300	300	380	NiCr	230	1.7
IGV/VORO/51	300	380	450	NiCr	230	2

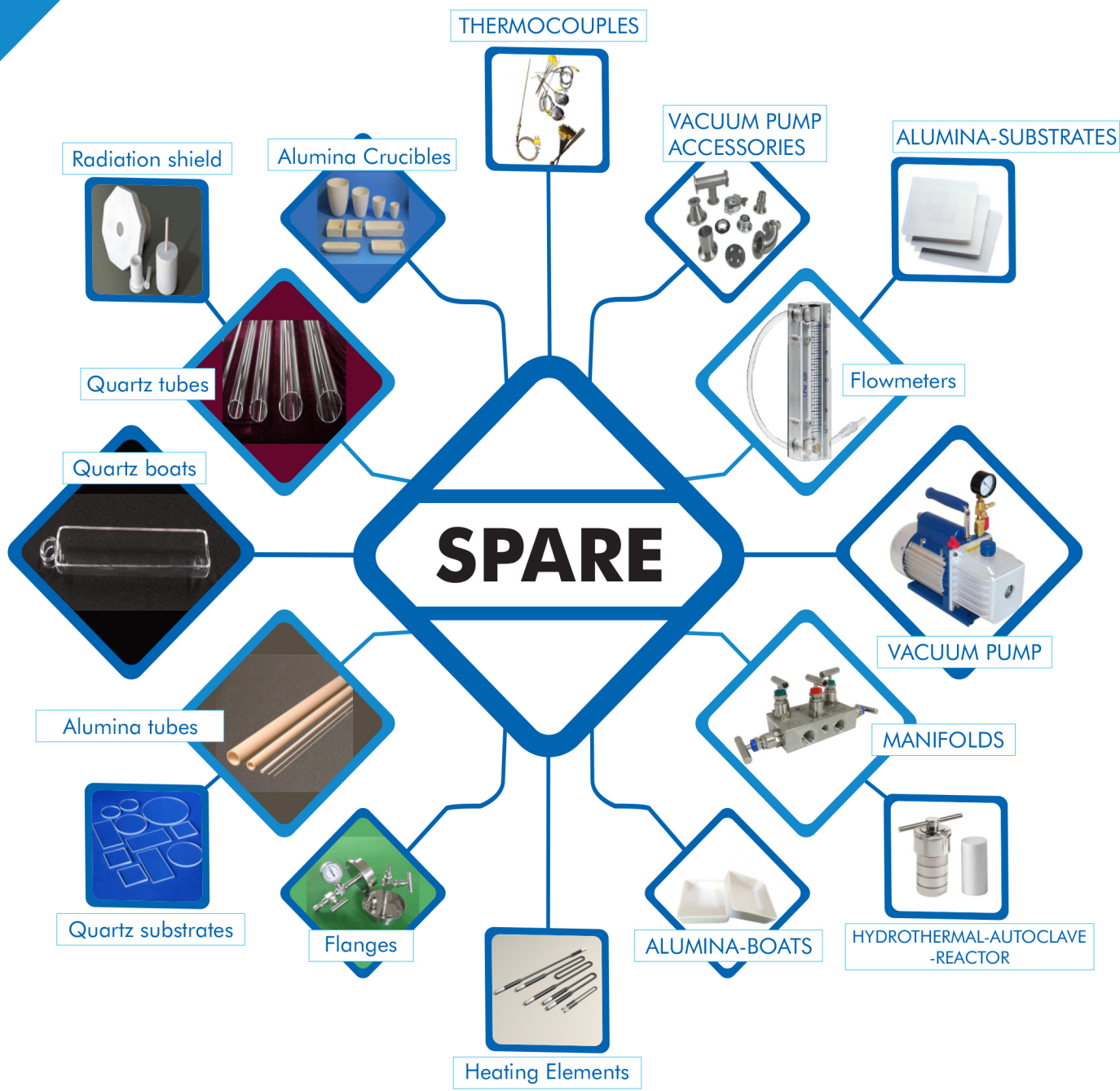


VACCUM OVEN RECTANGULAR

Model	Tmax °C	Chamber Dimension (IN MM)			Overall Dimension (IN MM)			Heating Elements	Voltage (V)	Power (KW)
		W	L	H	W	L	H			
IGV/VOR/8	300	200	200	200	600	400	400	NiCr	230	1
IGV/VOR/27	300	300	300	300	700	500	500	NiCr	230	1.2
IGV/VOR/42	300	350	350	350	750	550	550	NiCr	230	1.5
IGV/VOR/90	300	450	450	450	850	650	650	NiCr	230	1.8
IGV/VOR/125	300	500	500	500	900	700	700	NiCr	230	2.1
IGV/VOR/216	300	600	600	600	1000	800	800	NiCr	230	2.7

APPLICATIONS

Food industry, Pharmaceuticals Industry, College laboratory, Hospitals, Textile industry, Bandages making, Microbiology and Chemical laboratory, Plastic Industry, Moulding Industry, Rubber Industry, Ceramics Industry, Paint Industry, Dental Labs, Thermal Process Technology, Advanced Materials for following applications, Sterilization, Heat treatment, Drying Process, Baking, Annealing, Sintering, Hardening, Dental Porcelain Etc.



OTHER SERVICES



6, MAHESHWARI BUILDING, 12TH CROSS LANE, KHETWADI, GIRGAON, MUMBAI: 400004.

✉ products@instrugramventures.com ☎ +91 97574 12434