

# *Optical floating zone furnace*

Model : FZ-T-4000-H-VIII-VPM-PC



**Optical Floating Zone Furnace**



**Crystal Systems Corporation**

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## Specification

Model		FZ-T-4000-H-VIII-VPM-PC					
Lamp system		Halogen					
No. of lamp and mirror		4 pieces each					
Atmospheric pressure	Pressure	0.95 MPa					
	Vacuum	$6.7 \times 10^{-3}$ Pa ( $5 \times 10^{-5}$ Torr)					
Sealing for shafts		Shafts are sealed with Magnetic Liquid*1 Quartz tube is sealed with O-ring					
Max. temperature		2,200°C					
Normal temperature		1,850°C					
Lamp power		1,200W (300W x 4 lamps)					
		4,000W (1,000W x 4 lamps)					
Shaft		Upper and lower shafts transfer vertically					
Temperature difference		< 30°C					
Lamp cooling		Air cooling					
Mirror cooling		Air cooling					
Max. growth length		150 mm					
Max. gap adjustment		150 mm					
Max. feed rod length		150 mm					
Growth rare slow move		0.01~300mm/hr					
Growth rate fast move		6~150mm/min					
Shaft rotation rate		5~100rpm					
Monitoring		CCD camera and monitor (LCD)					
Control system	Computer	LabVIEW / Windows 10 (with remote control function)					
	Manual	Hand-control-box					
Atmosphere gas flow rate		① 5L/min Ar MFC ② 500cc/min O <sub>2</sub> MFC ③ 10L/min Air (Float) flow meter					
Fluctuation of power		Less than +/-0.2% against +/-10% of source					
Utilities	Electricity	3-phase 200V, 30A					
	Water	3L/min					
Size (mm)		Main body		Control box			
		Width		750		605	
		Depth		800		760	
		Height		2900		1640	

### Remarks:

1. Alternative lamp power (option): 150W / 500W / 750W
2. It is possible to change other type of gas and flow amount
3. Warranty;  
Crystal Systems Corporation warrants for one (1) year from the date of installation, except for abnormal use. Glassware such as (1) lamp (2) mirror and (3) quartz tube are out of warranty.
4. Above specification may be changed without any notification.

# *Optical floating zone furnace*

Model : FZ-T-10000-H-VIII-VPM-MII-PC



## **Optical Floating Zone Furnace**



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## Specification

Model		FZ-T-10000-H-VIII-VPM-MII-PC		
Lamp system		Halogen		
No. of lamp and mirror		4 pieces each		
Atmospheric pressure	Pressure	0.95 MPa		
	Vacuum	$6.7 \times 10^{-3}$ Pa ( $5 \times 10^{-5}$ Torr)		
Sealing for shafts		Shafts are sealed with Magnetic Liquid*1 Quartz tube is sealed with O-ring		
Max. temperature		2,200°C		
Normal temperature		1,850°C		
Lamp power		1,200W (300W x 4 lamps)		
		4,000W (1,000W x 4 lamps)		
		6,000W (1,500W x 4 lamps)		
Shaft		Upper and lower shafts transfer vertically		
Temperature difference		< 30°C		
Lamp cooling		Air cooling		
Mirror cooling		Air cooling		
Max. growth length		150 mm		
Max. gap adjustment		150 mm		
Max. feed rod length		150 mm		
Growth rare slow move		0.01~300mm/hr		
Growth rate fast move		6~150mm/min		
Shaft rotation rate		5~100rpm		
Monitoring		CCD camera and LCD		
Control system	Computer	LabVIEW / Windows 10 (with remote control function)		
	Manual	Hand-control-system		
Atmosphere gas flow rate		① 5L/min Ar MFC ② 500cc/min O <sub>2</sub> MFC ③ 10L/min Air (Float) flow meter		
Lamp control power		Programmable (4 lamps as 1 set) with PC		
Fluctuation of power		Less than +/-0.2% against +/-10% of source		
Utilities	Electricity	3-phase 200V, 40A		
	Water	3L/min		
Size (mm)		Main body	Control box	
		Width	890	605
		Depth	800	760
		Height	2900	1640

Remarks:

1. Above specifications may be changed without any announcement
2. Alternative lamp power (option): 150W / 500W / 750W
3. It is possible to change other type of gas and flow amount
4. Warranty;

Crystal Systems Corporation warrants for one (1) year from the date of installation, except for abnormal use. Glassware such as (1) lamp (2) mirror and (3) quartz tube are out of warranty.

**SUPER HIGH TEMPERATURE XENON TYPE**

***Optical floating zone furnace***

**Model : FZ-T-12000-X-VIII-VPM-MII-PC**



**Optical floating zone furnace**



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## Specifications

Model		FZ-T-12000-X-VIII-VPM-MII-PC		
Type of lamp		Xenon		
Number of lamp		4 pieces		
Number of mirror		4 pieces		
Max. atmosphere		Pressure	0.95 MPa	
		Vacuum	6.7×10 <sup>-3</sup> Pa (5×10 <sup>-5</sup> Torr)	
Chamber (Quartz tube)	Normal pressure	φ 50 mm / 395 mm long / 2 mm thick		
	High pressure	φ 50 mm / 395 mm long / 5 mm thick		
Sealing		Magnetic Liquid Type		
Max. temperature		3,000 °C		
Normal temperature		2,800 °C		
Lamp power		12,000W (3,000W x 4 lamps)		
Max difference of temp around the rod circumference		< 50 °C		
Lamp cooling		Air		
Mirror cooling		Air		
Quartz tube seal cooling		Water		
Mirrors/Shafts		Upper/Lower shafts transfer vertically		
Max. crystal length(mm)		150		
Max. feed rod length (mm)		150		
Growth rate slow move		0.01~300mm/hr		
Growth rate fast move		6~150mm/min		
Shaft rotation rate		5~100rpm		
Monitoring		CCD camera and LCD		
Operating (handling)		Computer	Windows 10 / LabVIEW with remote control function	
		Manual	Hand-control-box	
Atmosphere gas flow control		① 5 L/min Ar MFC ②500 cc/min O <sup>2</sup> MFC ③Air 10 L/min float flow meter		
Output voltage stability		Less than ±0.4% against ±input 10%		
Utility	Electricity	3-phase 200V, 100A		
	Water	5L / min		
Size (mm)		Main body	Control box	Power box
	Width	1,060	605	800
	Depth	800	760	700
	Height	3,000	1,640	1,800

Remarks:

1. Above specifications may be changed without announcement.

## Attachments

- 1) Xenon lamp max. power 3000W ----- 8 pieces
- 2) Quartz tube (Normal pressure) ----- 2 pieces  
(High pressure) -----2 pieces
- 3) O-ring (P-50,V-50 for quartz tube)----- each 4 pieces
- 4) Seed holding jig ----- 2 pieces
- 5) Feed holding jig ----- 2 pieces
- 6) Tool box ----- 1 box

## Warranty

Crystal Systems Corporation warrants for one (1) year from the date of installation, except for abnormal use. However, glassware such as (1) lamp (2) mirror and (3) quartz tubes are out of warranty.

## 北京众星联恒科技有限公司

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