

Xforge[®] 450-20 PVT system

Technical specifications

Crystal Boule size	Max. 200 mm (8"), min 100 mm (4") for smaller boule diameters TekSiC offers a reduce chamber size package as option	
Dimensions	Width	1200 mm
	Depth	1380 mm
	Height (adjustable feet's)	> 2905 mm (incl. light tower)
	Transport height	< 2800 mm (incl. shipping pallet)
	Weight	~ 1200 kg
Process chamber	Inner diameter	450 mm (Hotzone O.D. max 410 mm)
	Coil design	Hotzone optimized, customer specific
	Hotzone lift (optional)	90 mm stroke, max load 20 kg (position within 10 μm) max speed 1800 mm/hr
	Hotzone rotation (optional)	Continues 360 deg rotation
	Hotzone, Growth chamber (optional)	Generic hotzone provided as option
Process parameter	Working temperature	Max, 2500 °C ¹
	Heat up time	20–30 °C / min @ max power depending on hotzone design
	Operating pressure	1–950 mbar
	Ultimate pressure	> 10–5 mbar (with turbo)
	Pressure stability	±0,5 mbar
	Gas control (MFC) Nitrogen	0–0.1 l/min accuracy ±1 %
	Argon	0–0.1 + 0–20 l/min accuracy ±1 %
	Frequency	Coil and hotzone specific, typical 6–10 kHz
Metrology	Top	2-color pyrometer w/video module (100 to 2500 °C) on motorized XY-stage (position tuned from the GUI)
	Bottom (optional)	2-color pyrometer w/video module (100 to 2500 °C) manual adjusted
Facility requirements	Gas supply	Argon–200 sccm–20 l/min Nitrogen–0.1 l/min Prepared for additional gas supply
	Cooling water	50 l/min @ max. 6 bar (ΔP 3 bar)
	Compressed air (CDA or N2 tech)	6 bar absolute
	Electricity	400V, 50Hz, 63A (3-phase)
	Ventilation	Min, 200 m ³ /h



Safety and environmental impact are top priorities at TekSiC. The Xforge[®] PVT system has undergone extensive third-party testing and meets the necessary directives for CE marking compliance.

¹) Depending on the design of the hotzone, the internal temperature can range from 100 to 400 °C higher than the temperature indicated by the pyrometer.