

## **Czochralski crystal growing system SC 24**

Modular system concept for the industrial production of monocrystalline Silicon crystals (ingots)



The **Czochralski crystal growing system SC 24** was specially developed for the industrial production of monocrystalline silicon crystals (ingots). The modular concept of the system allows a flexible adaptation to the customer's needs. The 24" heating unit (hotzone) is optimized for low energy consumption and designed for a charge of up to 160 kg of silicon (without feeding unit) and for crystals with up to 230 mm (9") diameter. Depending on diameter and loading, crystals with a length of up to 2.9 m can be pulled. The crystal pulling speed is max. 10 mm/min and the rotation speeds of crystal and crucible up to 35 rpm.

With the help of a camera system for diameter measurement and two pyrometers for temperature measurement, automatic process control is possible by means of PLC (programmable logic controller) and PC. The user-friendly graphical interface for process control and monitoring is optimized for mass production.



#### Necessary Accessories:

- Hotzone up to 24"
- Vacuum pumps
- SiO Filter Systems

#### Optional Accessories:

- Feeding Unit
- Multipulling
- Active Crystal Cooling
- Crucible Charging System
- Ingot Handling System
- Remote Access via VPN

## TECHNICAL DATA

<b>Puller Data</b>	Max. Ingot diameter	up to 230 mm
	Ingot length	up to 2.900 mm
	Charge capacity	160 kg (up to 220kg with feeding unit)
	Hotzone	24"
	Total height (closed)	7,900 mm
	Total height (opened)	9,500 mm
	Height above operator level (opened)	7,700 mm
	Footprint	3,700 mm (D) x 4,200 mm (W)
<b>Utilities</b>	Cooling water	max. 240 l/ min
	Rated Power	max. 280 kVA
<b>Crucible Drive Unit</b>	Crucible lifting speed*	0.02 ... 2 mm/min
	Crucible positioning mode*	2 ... 200 mm/min
	Crucible rotation speed*	1.0 ... 35 rpm
<b>Crystal Drive Unit</b>	Crystal lifting speed*	0.1 ... 10 mm/min
	Crystal positioning mode*	1 ... 1,000 mm/min
	Crystal rotation speed*	1.0 ... 35 rpm

\* all speeds are continuously adjustable