

VPO-300 Options and accessories

No.	Options:	
	Additional process gas lines:	
1	VPO-MFC-Ar-5nlm	Additional process gas line for Argon (Ar) gas controlled by MFC
2	VPO-MFC-O2-5nlm	Additional process gas line for Oxygen (O ₂) gas controlled by MFC
3	VPO-MFC-FG-5nlm	Additional process gas line for Forming Gas (max. 10% H ₂ /N ₂) gas controlled by MFC
	Extended temperature option:	
4	VPO-ET	Extension of maximum temperature to 1200 °C (maximum soak time depending on cooling water supply)
	High vacuum option:	
5	VPO-HV	High vacuum preparation of VPO system (including gate valve, turbomolecular pump (DN 100 ISO-K) and multi-range pressure gauge)
	Height and lift pins options:	
6	VPO-EH	Extended chamber height up to 120 mm
7	VPO-LiftPins	Upgrade with Lift pins for lifting up of single wafer (150 mm, 200 mm or 300 mm diameter)
	Hydrogen gas options:	
8	H2	Hydrogen option for use of pure hydrogen gas (100% H ₂)
9	H2S	Safety hood
	Additional thermocouples:	
10	TC I	Upgrade with additional (flexible) thermocouple (not connected to process control, for external data logging)
11	TC II	additional thermocouple to measure on device (plugged in chamber); for external measurement tool (max. 4 pcs)
	Vacuum options (not including vacuum pumps):	
12	VAC I	Vacuum basic up to 3 hPa incl. vacuum sensor and valve
13	VAC II	Vacuum comfort up to 10 ⁻³ hPa incl. vacuum sensor and valve
	Interfaces:	
14	VPO-RC	Remote control of top cover opening and closing, including connection to safety of external cabinet
15	VPO-SI	Serial interface between VSS system and external PC using USB 2.0 port and through USB 2.0 cable
	Measurement options:	
16	MM	Moisture measurement
17	OxAtAn	Atmospheric oxygen analyser
	Other options:	
18	CAB	Cabinet with integrated Universal Heat Exchanger (UHE)
19	PT	Upgrade with 3 colors pat light
20	VPO-GP	Additional graphite plate (susceptor) with 300 mm x 300 mm area (3 mm thick)
21	VPO-QP	Additional quartz glass plate at top
22	VCR	Tubing made of VCR (welded)
	Suitable vacuum pumps:	
23	MP	Membrane/diaphragm pump (not chemically resistant)
24	MPC	Chemically resistant membrane/diaphragm pump
25	RP	Multi-stage roots pump for vacuum up to 10 ⁻² hPa (oil free)
26	RVP	Rotary vane pump for vacuum up to 10 ⁻³ hPa with oil filter
	Suitable chillers:	
27	UHE	Universal Heat Exchanger (about 10 kW cooling capacity; requires supply of cooling water for its primary circuit)
28	WC III	Closed loop water cooling system (about 4 kW cooling capacity)
29	WC IV	Closed loop water cooling system (about 9 kW cooling capacity)