



THERMAL SYSTEMS

99,9 % reduced VOC

The Thermal Oxidizer allows for it!



VOC Thermal Oxidizer
Solar Equipment



VOC Thermal Oxidizer for a clean process

The drying process of solar wafer metallization pastes evaporates fumes and smoke from volatile components of the organic compounds (VOCs). These fumes need to be safely removed from the process chamber of the dryer to ensure a high quality production of solar cells.

Due to the high temperatures inside the unit, the Thermal Oxidizer destroys the VOCs contained in the flue gas, such as alcohols, toluene, and terpineol with an efficiency of up to 99,9 %. Lowest concentrations of pollutants in the exhaust of the dryer ensure compliance with legal standards (i.e. TA Luft, Germany). Essentially the released gas from the oxidizing unit contains water and carbon dioxide elements.

	Run No. 1	Run No. 2	Run No. 3
Oxidizer Inlet VOC Concentration (g/m ³)	1,64	1,71	2,07
Oxidizer Outlet VOC Concentration (g/m ³)	0,00273	0,00145	0,00305
VOC Destruction Rate (%)*	99,8	99,9	99,8

* measured in a real production process (Aluminium Backside Dryer) at Suniva USA

Facts and figures

Detail Information of the VOC Thermal Oxidizer

System Types

	OXIDIZER SIZE M	OXIDIZER SIZE L
Overall Length:	1,18 m	2,3 m
Overall Width:	1,12 m	1,2 m
Height (without exhaust tube):	1,4 m	1,3 m
Weight:	500 kg	650 kg
Voltage supply:	3x400 VAC +/-5 % 50/60 Hz	3x400 VAC +/-5 % 50/60 Hz
connected load:	34 KW	66 KW
total required suction capacity²	approx. 1000 m ³ /h	approx. 1500 m ³ /h
Max. Solvent throughput³	1600 g/h	2120 g/h
similar wafer throughput value	4000 Wafer/h	5300 Wafer/h
max. Air throughput	115 Nm ³ /h	153 Nm ³ /h
Case of Application:	VOC destruction / Ag and Al paste	- -

² depending on required mixing temperature at handover to facility exhaust

³ with technical limitation of solvent throughput / available for Rehm dryers ex works or retrofit to Rehm dryers