

TPF Series Ozone Generators



Introduction

The model TPF is modular series of medium frequency ozone generators employing the latest electronics. The generators are manufactured by Ozono Elettronica Internazionale (OEI) of Milan Italy. OEI has been manufacturing ozone generators for over 30 years and has installed over 400 units during that time.

The model TPF can operate with air or oxygen feed. The ozone generator consists of a cylindrical vessel in which stainless tubes are welded between two fixed plates, similar in construction to a shell and tube heat exchanger. A coolant flows around the outside of these steel tubes to take away the heat produced in the generation of ozone.

TPF Ozone Generators are Available from Spartan Environmental Technologies, LLC.
Phone: 800-492-1252, Fax : 440-368-3569, e-mail: info@SpartanWaterTreatment.com
Web : www.SpartanWaterTreatment.com

The steel tubes serve as receptacles for high voltage electrodes. The steel tubes' inside diameter and the high voltage electrode's outside diameter correspond closely so that a small gap exists between them. Ozone is formed in this gap from the continuously flowing feed gas and exits the ozone generator in the required concentration.

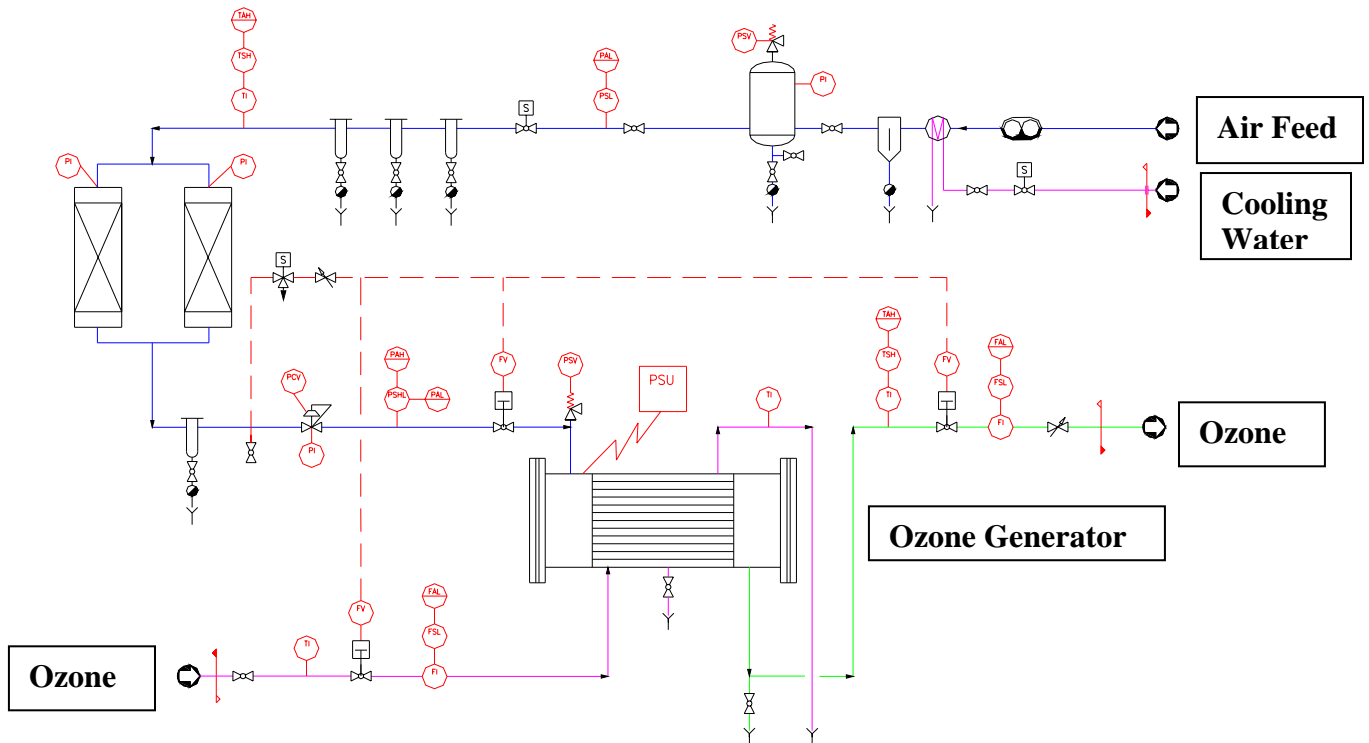
Each electrode in the system has its own fuse which ensures the selective disconnection of a defective electrode from the others without any interruption in the process. The main power unit consists of one or more rack power modules. This modular design permits easy maintenance since power modules can be quickly replaced with standard modules. The power supply unit (PSU) and electronic circuits are constructed with advanced semiconductor technology (IGBT).

The process is fully instrumented to insure safe and reliable operation. A programmable logic controller (PLC) checks each operation and instrument. A touch screen control panel allows the operator to interface with the PLC or the unit can be integrated into the plant SCADA through the provided RS 485 serial port.

KEY FEATURES:

- Compact design with controls, power supply & air preparation on a single skid
- Modular electronics
- Every dielectric element mounted with individual fuse
- Hydraulic connections made with stainless steel
- Unique process instrumentation for reliable operation
- PLC with touch screen control panel

Air Preparation Unit



Process Flow Sheet and Instrumentation Diagram
(For Informational Purposes Only)

Type	Production lb/day		Air-Oxygen Flow SCFM		Cooling Water gpm		Absorbed Power kW		Dimensions ft
	Air	Oxygen	Air	Oxygen	Air	Oxygen	Air	Oxygen	L x W x H
TPF 19	50	75	22	12	8.4	9.2	14.3	12.8	6.6 x 5.4 x 7.2
TPF 26	69	103	31	16	11.4	17.2	19.5	17.6	7.2 x 5.5 x 7.2
TPF 37	98	147	44	23	16.3	18.0	27.8	25	7.2 x 5.6 x 7.2
TPF 61	161	242	73	38	26.8	30.4	45.8	41.2	7.2 x 6.2 x 7.2
TPF 91	240	360	109	56	40.0	44.9	68.3	61.4	7.2 x 6.6 x 7.2
TPF 127	336	504	151	79	55.9	62.5	95.3	85.7	7.9 x 6.6 x 7.2
TPF 158	418	626	188	98	69.5	78.3	118.5	106.7	7.9 x 6.7 x 7.5
TPF 182	481	722	217	113	80.0	90.2	136.5	123	7.9 x 7.3 x 7.5

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SITE CONDITIONS	
Design Altitude	< 3,280
Ambient Temperature	40-95 °F
Humidity	< 80 %
Particulates	< 0.13 mg/SCF
Pressure	14.7 PSI
Gas and Noxious Vapors	NO

ELECTRICAL DATA	
Mains voltage	400 Vac \pm 10 %
Frequency	50 – 60 Hz
Power factory	0.86 – 0.98 (cos ϕ)
Regulation range	10 – 100 %
Remote control	4 – 20 mA / RS485
Protection class	IP 21
Standards	EN / IEC / ISO
Compliance	CE

CONTROL & SIGNAL	
ON / OFF / RESET	Local / remote
Valves open (purge)	Local / remote
Output control	Local / remote
Production stop	Local / remote
Remote enable	Local / remote
Alarm (collective)	Local / remote

MATERIALS	
In contact with ozone	AISI 316 L, Viton®, PTFE
In contact with water	304 L, 316 L
Enclosure	Mild steel

Viton® is a registered trademark of DuPont Performance Elastomers

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