

# CAPITAL CONTROLS<sup>®</sup> TPF Systems

## 1 kg/h to 37 kg/h Ozone Generators

The CAPITAL CONTROLS<sup>®</sup> TPF range is the mid-size range of ozone generators from De Nora. Thirteen different models produce between 1 kg/h and 37 kg/h of ozone in concentrations between 2% wt and 15% wt. Flexible systems offer a range of features to ensure simple maintenance, maximum uptime and cost effectiveness.

De Nora has been delivering ozone generators across a host of applications since 1970 and supports customers through the process from understanding the requirements through to delivery and aftersales support – all you need is a supply of air, water and electricity and we'll do the rest.



### Features

#### Flexibility

- Systems produce between 1 kg/h and 37 kg/h of ozone covering the majority of applications
- Ozone concentrations between 2% wt and 15% wt
- Air, PSA, and Liquid Oxygen (LOX) feed gas options – all optimized to minimize power consumption requirements
- Options include full systems, including air dryers and filters (for air feed gas systems) or single components
- Fused and/or electronic control options delivers greater control and cost advantages

#### Ease of use and operation

- Plug and play/fully automated system – Simple start up and ease of use
- Touch screen operation – easy to operate
- Standard inverter makes obtaining spare parts easier

#### Effective and efficient operation

- Complete process instrumentation to ensure reliable ozone production
- Profibus-Modbus-Ethernet extensions available – improved monitoring and control

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## Features (Continued)

### Secure and safe

- System instrumentation for safe operation
- IP54 ingress protection compliant – ensures protection and long life of your equipment
- Fully tested and certificated
- Robust dielectric offers improved reliability over other designs

### Easy installation

- Compact designs are skid mounted up to 18 kg/h, including the air feed gas drying system for ozone production from air – ease of integration, installation and management with your existing facility

TPF	Ozone Performance		Cooling Water Demand		Weight		Dimension (depth x width x height)	
	kg/hr	lb/day	m <sup>3</sup> /h	gpm (US)	kg	lbs	mm	inch
19	up to 1.9	up to 100	1.7	7.5	2000	4409	2000 x 1550 x 2160	78.7 x 61 x 85
26	up to 2.6	up to 140	2.4	10.6	2100	4629	2100 x 1600 x 2160	82.7 x 63 x 85
37	up to 3.7	up to 200	3.3	14.5	2340	5159	2100 x 1600 x 2160	82.7 x 63 x 85
61	up to 6.1	up to 330	5.5	24.2	2800	6173	2200 x 1855 x 2160	86.6 x 73 x 85
91	up to 9.1	up to 480	8.2	36.1	3200	7054	2250 x 1900 x 2160	88.6 x 74 x 85
127	up to 12.7	up to 680	11.4	50.2	3500	7716	2400 x 2115 x 2150	94.5 x 83 x 84
158	up to 15.8	up to 850	14.2	62.5	4060	8950	2500 x 2265 x 2230	98.4 x 89 x 87
182	up to 18.2	up to 1000	16.3	71.8	5300	11684	2500 x 2265 x 2230	98.4 x 89 x 87
240	up to 24.0	up to 1300	21.6	95.1	Separate arrangement for Ozone Generator and Power Supply Unit Unit Dimensions for Ozone Generator (max.) 1800 x 1600 x 2300 Dimensions for Power Supply Unit (max.) 1600 x 4000 x 2300			
271	up to 27.1	up to 1450	24.3	107.0				
308	up to 27.1	up to 1650	27.6	121.5				
336	up to 33.6	up to 1800	30.2	133.0				
374	up to 37.4	up to 2000	33.6	147.9				

Cooling Water Demand at design conditions: Cooling water at 15°C (59°F) - flow rate is according to the specific ozone production and concentration.

Ozone generators are available stand-alone or as complete systems including ozone contact system, ozone monitors and vent ozone destruction systems etc. High technology combined with high quality materials and components form reliable ozone systems that operate even under different environmental conditions.

## Ancillary Equipment Options

### Feed Gas Supply

- Liquid oxygen storage tanks, vaporizers and complete plants
- PSA – Oxygen (On-site generation, Pressure Swing Adsorption)
- Air preparation systems
- VPSA – Oxygen (on-site generation, vacuum Pressure Swing Adsorption)

### Instrumentation and Control

- Devices for the management and measurement of Ozone concentration and residual in water
- Alarm monitoring and indication
- System control based on process signal monitoring

### Cooling Water Supply

- Air/water cooled chiller units
- Heat exchangers

### Containerized System

- Insulated, lit and painted container
- Complete safety concept including alarms in line with international standards
- Electric heating and ventilation fan

### Ozone Mixing and Contacting

- Side stream injection systems
- Fine bubble diffusers
- Closed reactors
- Degassing tanks
- Demistors

### Electronic Process Control

- MCC
- Main PLC

### Ozone Destruction in Off Gas

- Thermal and Catalytic Ozone Destructors

WATER MADE EASY

MARINE

ENERGY

MUNICIPAL

INDUSTRIAL



**DE NORA**  
our research - your future

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