

Ozgen Ozone Generators

Cooling Water Requirements

Due to the efficient ozone generation cell design of the *Ozgen* ozone generator, whereby the glass dielectric tubes are directly cooled, a very low cooling water flow is required.

Cooling Water Flow Requirements

If using a higher temperature cooling water, such as heated swimming pool water, then an increased cooling water flow is required.

Open Cooling Water Circuit

Note: As the cooling water temperature increases, the ozone generator output will slightly decrease, e.g. where swimming pool water is used as cooling water, having a temp of 30°C the maximum ozone output is derated. If any doubt exists, contact your nearest Watertec Engineering Pty Ltd office or representative for advice.

Fresh water is to be used for cooling water, a drinking water supply being most suitable. Seawater or brackish water is NOT suitable for ozone generator cooling.

The following ozone generator cooling water flow rates below are based on the temperature of the water entering the generation cells being 20°C and 30°C.

Recommended Cooling Water Flow Rate for Open Cooling Water Circuit								
Ozonator Model	Fresh Water Cooling Water Flow Rate at 20 deg C				Fresh Water Cooling Water Flow Rate at 30 deg C			
	Nominal g/hr on air	Water flow rate l/h	g/hr on O2	Water flow rate l/h	Nominal g/hr on air	Water flow rate l/h	g/hr on O2	Water flow rate l/h
WT10	10	30	20	36	10	90	20	90
WT20	20	30	40	36	20	90	40	90
WT30	30	45	60	54	30	135	60	135
WT60	60	90	120	108	60	270	120	270
WT100	100	150	200	180	100	450	200	450
WT200	200	300	400	360	200	900	400	900
WT300	300	450	600	540	300	1350	600	1350
WT400	400	600	800	720	400	1800	800	1800
WT600	600	850	1200	1020	600	2550	1200	2550
WT800	800	1150	1600	1380	800	3450	1600	3450
WT1000	1000	1450	2000	1740	1000	4350	2000	4350
WT1200	1200	1720	2400	2064	1200	5160	2400	5160
WT1500	1500	2300	3000	2760	1500	6900	3000	6900

Recommended Cooling Water for a Closed Cooling Water Circuit						
Ozonator Model	Air Fed Ozonator			Oxygen Fed Ozonator		
	Nominal g/hr on air at 2 % w/w	kW of energy required at 20° C	l/hr water flow rate	Nominal g/hr on O2 at 6 % w/w	kW of energy required at 20° C	l/hr water flow rate
WT10	10	0.2	60	20	0.22	60
WT20	20	0.4	60	40	0.44	60
WT30	30	0.6	90	60	0.66	90
WT60	60	1.2	180	120	1.32	180
WT100	100	2.0	300	200	2.2	300
WT200	200	4.0	600	400	4.4	600
WT300	300	6.0	900	600	6.6	900
WT400	400	8	1200	800	8.8	1200
WT600	600	12	1700	1200	13.2	1700
WT800	800	16	2300	1600	17.6	2300
WT1000	1000	20	2900	2000	22	2900
WT1200	1200	24	3440	2400	26.4	3440
WT1500	1500	30	4600	3000	33	4600

Closed Cooling Water Circuit

For installations where available cooling water temperature is too high, or where suitable cooling water is not available or the wastage of a fresh water source is unacceptable, a closed cooling water circuit is recommended. In such cases, we recommend the use of a compact refrigeration unit with an air-cooled condenser, including a circulating pump and intermediate storage vessel (Recirculated Water Chiller System). The table details the required recirculation rate of the cooling water and cooling outputs needed for the individual ozone generator models. This data is based on an ambient air temperature of 40°C at the installation location. Hot air discharged from the unit should also be considered when locating the unit.

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