Miranda Wastewater Solutions for

Hotels ···

Robinson Club Maldives

Case Study for Miranda STP System

Hotel Design Data

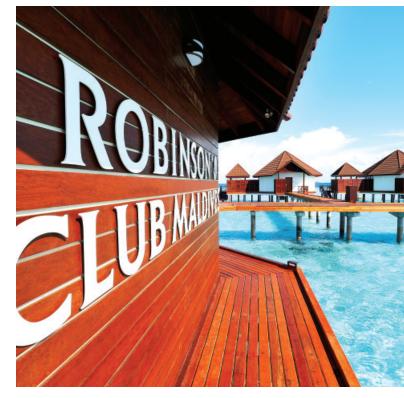
Number of Guestrooms	: 250	
Total Population	: 500 people	
Water Usage for Capita	: 400 lt / person	
Daily Wastewater Flowrate	: 200 m³/day	
The Quality of Treated Water	: Irrigation	
Water Supply	: Desalination	
Area to be Irrigated (est.)	: 20.000 m ²	



In the majority of resorts and hotels wastewater is simply discharged...

Robinson Club recycles wastewater for Irrigation, benefits occur as outlined table on the right.





Robinson Club. Maldives

MIRACELL Wastewater Treatment System Feasibility Analysis

Past Status	
Monthly Irrigation Water Utilized in Summer Season (m ³)	6.000
Avarage Amount Paid for Irrigation Water (Dollar/m³)	2,25\$
Monthly Water Charge (Dollar)	13.500 \$
Seasonal (6 Months) Water Charge (Dollar)	81.000 \$
Estimated charge to be paid for water in 10 years (Dollar)	810.000\$

(Annual inflation percentages have been taken into account in all the projected water charges)

Status After Recycling of Wastewater with **Miranda Wastewater Treatment System**

Savings To Be Gained From The Plant	741.300\$
Estimated Operational Cost Projected for 10 years (Dollar):	68.700\$
Seasonal Operation Cost (Dollar)	6.870 \$
Monthly Operational Charge of the WWTP (Dollar)	1.145 \$
Model of Miranda WWTP to be used: MIRACELL	400
Monthly Capacity of the WWTP (m³/month)	6.000
Capacity of the WWTP (m³/day)	200

^{*} Cost of concrete storage tanks are not included in the calculations

Operation in 10 Yrs. (Dollar):



Miranda Wastewater Solutions for

Hotels …

Operational Advantages

- Miracell is simple to operate
- Requires a short 1 day training
- Requires minimal maintenance by any person
- System start-up to produce satisfactory treated water within 2 weeks after installation.
- Easy sludge disposal at comfortable frequency.
- System can be serviced by Miranda through local representatives or any trained technical maintenance team servicing the hotel facilities.

Miranda's Miracell Sewage Treatment System complements the hotel infrastructure by:

- Assisting the hotel to conserve water.
- Save significant amounts from the annual water expenditures.
- MIRACELL sewage treatment plants are made from composites and do not corrode.
- Miracell sewage treatment are lightweight and have a life span of over 15 years.





Water sample from Robinson Club Maldives

FEATURES & BENEFITS

- MODULARSILENT
- DURABLE
- ODORLESS
- AESTHETIC DO NOT CORRODE
- CONSUMES
- **ENERGY**



Can be installed Indoors & Outdoors or buried in ground

MIRANDA recycles waste water in conformity with irrigation norms (BOD 20, COD 120, TSS 30).







Operational Costs of the Miranda System

200 m³/day Capacity Miracell Blue W.W.T.P. Operation Cost Table Robinson Club Maldives

ENERGY CONSUMPTION		
A. WASTEWATER TRANSFER PUMP		0,55 kW
Power Amount		0,44 kW 2 pcs
Treated Water Per Month		6000 m ³
Daily Running Time		20 hour
Energy Consumption Per Month		528 kW
Cost Per Month Cost Per m³	149,8 TL 0,02 TL	40,4 \$ / Mor 0,01 \$ / m³
B. MIRACELL GEARBOX & MOTOR		0,25 kW
Power		0,20 kW
Amount		8 pcs 6000 m³
Treated Water Per Month Daily Running Time		24 hour
Energy Consumption Per Month		1152 kW
Cost Per Month	326,9 TL	88,1 \$ / Mor
Cost Per m³	0,054 TL	0,02 \$/m³
C. CHLORINE, CAUSTIC, HCL DOSAGE F	PUMP	0,016 kW
Power		0,0128 kW
Amount Treated Water Per Month		4 pcs 6000 m³
Daily Running Time		20 hour
Energy Consumption Per Month		31 kW
Cost Per Month Cost Per m³	8,7 TL 0,0015 TL	2,4 \$/Mor 0,0004 \$/m³
D. SAND FILTER FEED PUMP		2,20 kW
Power		1,76 kW
Amount		1 pcs
Treated Water Per Month Daily Running Time		6000 m³ 20 hour
Energy Consumption Per Month		1056 kW
Cost Per Month	299,7 TL	80,8 \$/Mor
Cost Per m³	0,0499 TL	0,0135 \$ / m ³
E. SAND FILTER BACKWASH PUMP		2,20 kW
Power		1,76 kW
Amount Treated Water Per Month		1 pcs 6000 m³
Daily Running Time		1 hour
Energy Consumption Per Month		53 kW
Cost Per Month	14 TL	4 \$ / Mor
Cost Per m³	0,002 TL	0,0001 \$ / m³
F. ULTRAFILTRATION		3,00 kW
Power		2,40 kW 1 pcs
Amount Treated Water Per Month		6000 m ³
Daily Running Time		20 hour
Energy Consumption Per Month		1440 kW
Cost Per Month Cost Per m³	408,7 TL 0,0681 TL	110,2 \$/Mor 0,0184 \$/m³
Total Annual Energy Cost Total Annual Energy Cost Per m³	14,506 TL 0,0681 TL	3.910 \$ 0,0184 \$
FIXED DATA		
Exchange Rate : 3,71 TL / \$	Motor Int	. Power : 0,8

Miranda is proud to assist in saving significant amounts of funds while contributing to the environment.



Miranda is proud to contribute to help keep