

Report: Skimmers for Turkuazoo, Istanbul, Turkey



www.aquacare.de
AquaCare GmbH & Co. KG
Am Wiesenbusch 11 - D-45966 Gladbeck - Germany
☎ +49 - 20 43 - 37 57 58-0 • 📠 +49 - 20 43 - 37 57 58-90
www.aquacare.de • e-mail: info@aquacare.de

Installation of two skimmers ACF480.000V in a large aquarium and the made experiences

The first large aquarium in Istanbul, Turkey, is Turkuazoo. It is situated in the “Forum Istanbul”.

The main sea water tank has a volume of about 4.5 million litres water. The old technique, that should be changed by AquaCare types, consists of 5 pieces “Ozgen” skimmers, made by Watertec, Waterford, Australia. The pumps are driven with each about 144 m³/h water; air intake is 4 m³/h and ozon intake



about 0.5-1 m³/h. All skimmers together pumps about 720 m³/h water and only 22.5 to 25 m³/h air/ozone.



The skimmers should be changed because of the following points:

- bad performance: low skimming rates caused by very less air input,
- daily new adjustments: every day the exact internal water level must be regulated,
- the non-sea water resistant pumps: the stainless steel type (Grundfos CRN45-20) broke down every 3-6 months; the repair costs were drastical,
- daily maintenance work: the neck of the skimmers were manually cleaned daily to get foam at all,
- and last but not least the high energy consumption.

The new skimmer type should be the AquaCareFlotor 480.000V. Two of these units were installed with each 330 m³/h water flow and 110 m³/h air input. The new total water flow is about 660 m³/h (nearly the same) and the air input 220 m³/h (nearly 9 times more).

The installed electrical power was changed from 5 × 7.5 kW (injector pumps) plus 18 kW (2 × 7.2 and 1 × 3.6 kW) for the water intake pumps of the old system to 2 × 30 kW for the new skimmers. AquaCareFlotors do not need extra water intake pumps. Additional each pump was equipped with a frequency controller to save some kW.



After the installation (at the pictures the outlet tubing was not installed right now) the first skimmer was started without ozone. At 45 Hz (50 Hz pump) the water flow of 330 m³/h and air input of 110 m³/h were reached. The first foam was created after about 30 minutes. Two hours later the foam production of the old skimmers (driven with ozone input) stopped and started never more. Only the AquaCareFlotor was still foaming. After bringing the second skimmer into service the old skimmers were shut down.



Overview about the changed systems	Old system	New system
Skimmer brand	Ozgen	AquaCareFlotor
Numbers of skimmers	5	2
Total water flow of skimmers	720 m ³ /h	660 m ³ /h
Turn over of main tank	6.3 hours	6.8 hours
Total air input by injectors	25 m ³ /h	220 m ³ /h
Ratio water input / air input	29 : 1	3 : 1
Volume of the skimmers	ca. 16 m ³	13.6 m ³
Water contact time	ca. 1.32 min	1.24 min
Air contact time	some seconds	some minutes
Numbers of used pumps	8	2
Installed electrical power injector of skimmers	37.5 kW	60 kW
Installed electrical power water inlet pumps	18 kW	
Total power consumption	55.5 kW	42 kW (45Hz)
Energy per year	486,180 kWh	367,920 kWh
Saved energy per year	-	118,260 kWh (24%)
Saved money per year at 0.10 EUR / kWh	-	11,826 EUR