



# SUBflex

## **SUBflex** - A Netcage System for Open Sea Aquaculture

Next level marine aquaculture is advancing to the open sea, a few miles offshore, where water quality is superior and where farming can co-exist with tourism, marine wildlife and coastline trade and development..

SUBflex is a single-point mooring submersible and flexible netcage aquaculture system. The single-point mooring function generates circular movement around a single anchor, dispersing feces to a diameter of 1,000 meters. The construction supporting the net comprises of high-density polyethylene, creating a strong and flexible structure that can continuously move in the current and waves.

The technology enables the system's pipes to haul seawater prior to a predicted storm in a bid to submerge the system to the sea bottom. Once the storm subsides the pipes are refilled with air to re-float the cages.

SUBflex's first half-scale farm was installed in 2004 within East Mediterranean waters, 2 km offshore. The cages and fish (Gilthead seabream) survived storms with 7-8 meter waves at submerged states, and survived waves of 2-3 meters at surface states. Open sea biological conditions proved to be ideal; oxygen levels are high, constant currents provide fish with excellent water exchange and the amount of fouling on the net is minor.

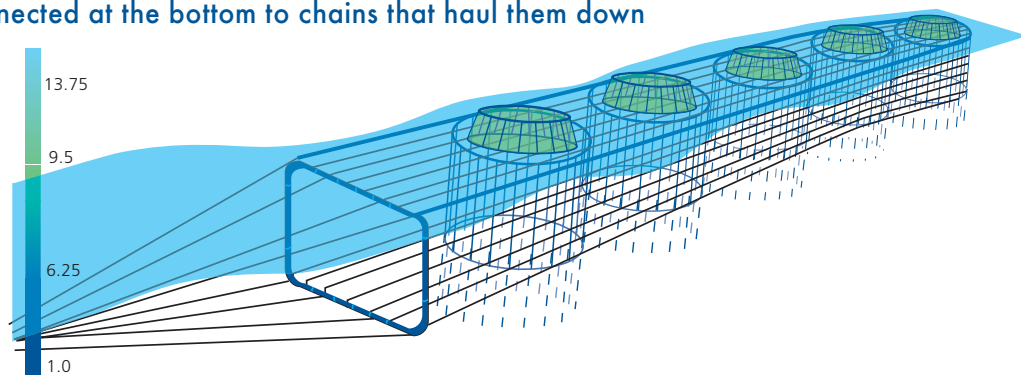


The first full-scale SUBflex system (300-350 ton/year), assembled on Israel's south coast, will be anchored in the Mediterranean, 11 km offshore at 60 meters depth.



## Product description

- A flexible single-point mooring submersible netcage system with diving capabilities.
- The anchor unit, based on a proprietary design, adjusts itself to specific local maritime conditions including; wave swell, wind, currents etc.,
- The main frame is connected through 300 meter length cords that all join a central cord linked to the anchor
- Two long pipes (140 meters) provide strength and flexibility, helping to navigate the construction for floating or submerging
- 5 - 6 nylon cages are, exposed to the surface at the top mid-point
- The cages are connected at the bottom to chains that haul them down



## Dimensions

|  | 12 m Diameter | 16 m Diameter | 18 m Diameter |
|--|---------------|---------------|---------------|
| Length (m)   | 106           | 140           | 160           |
| Mooring circle Diameter (m)                              | 600           | 1,000         | 1,200         |
| Net draft (m)  | 8             | 12            | 12            |
| Single cage volume (m <sup>3</sup> )                     | 905           | 2,410         | 3,053         |
| Total system volume (m <sup>3</sup> )                    | 4,525         | 12,050        | 15,265        |
| Seabed depth (m)   | 40-55         | 50-60         | 50-80         |
| Production (ton/year) at density of 20 kg/m <sup>3</sup> | 90            | 240           | 305           |
| Production (ton/year) at density of 25 kg/m <sup>3</sup> | 115           | 300           | 380           |

For additional information:

**AquaMaof Technologies Ltd.**

P.O. Box 3599

14135 Tiberias, Israel

T: +972 (0) 4 673 7630

F: +972 (0) 4 673 7633

email: [info@aquamaof.com](mailto:info@aquamaof.com)

[www.aquamaof.com](http://www.aquamaof.com)