Pool Robotic Cleaner

General:

1. It is the intent of these specifications to describe a pool robotic cleaner designed specifically for swimming pool, spa and other aquatic applications. The specification is based on the TigerShark Robotic Cleaner manufactured by Hayward Industries.

2. This specification includes criteria for the following CSI Master Format components:

   2.1. Division 13 – Special Construction
   - 131000 Special Facility Components
     - o 130111 Operation and Maintenance of Swimming Pools.
     - o 131100 Swimming Pools
     - o 131149 Swimming Pool Cleaning Equipment

3. The pool robotic cleaner shall meet the criteria of the following standards:
   - UL – Underwriters' Laboratory
   - NSF – National Sanitation Foundation

4. The pool robotic cleaner shall be supplied to its site of installation in its original manufacturer's packaging. The package shall clearly state the model name, model number and country of manufacture and include the relevant operating and installation instructions. The robotic cleaner unit shall clearly indicate the manufacturer's name and logo.

5. The pool robotic cleaner shall be a manufactured by a company with at least 10 years of proven product experience. The manufacturing facility shall be a permanent, established facility that meets the relevant codes.

6. The pool robotic cleaner shall be approved by CE & ETL.

7. The pool robotic cleaner shall be guaranteed by the manufacturer for workmanship, materials and performance for a period of 1 year.   The warranty will not include abusive or improper treatment of the robotic cleaner during operation.

Product:

The pool robotic cleaner should be a self-contained unit capable of propelling itself around the pool and cleaning both the floors and the walls of the pool within a pre- defined time and powering down at the end of the cleaning cycle.

1. The pool robotic cleaner shall have the following capacities:
   a. The suction rate shall be 75 gallons/minute
   b. The unit shall move at a ground speed of 55 feet/minute
2. The pool robotic cleaner shall be powered directly by a weather and corrosion resistant low voltage power supply from outside the water.
3. The pool robotic cleaner shall have a Kevlar reinforced cable of not less than 55 feet length.
4. The pool robotic cleaner should be equipped with an adjustable handle that will optimize cleaning and prevent the cord from twisting.
5. The pool robotic cleaner shall be suitable for cleaning a pool up to 20' x 40'.
6. The cleaning action and the propulsion shall be powered by a 24V DC brush oil-less motor with double Redundant Radial Shaft Seals & O-Rings.
7. The motor should be in a sealed, watertight polypropylene enclosure. The motor box of the robotic cleaner should be leak tested under pressure.
8. The motor shall propel the system through a soft contact polyurethane drive track and an acetal/stainless steel ball bearing system.
9. The robotic cleaner shall be equipped with a high grip brush material suitable for any type of pool surface.
10. The robotic cleaner unit should have an onboard filter to hold the dirt cleaned from the pool. The filter shall have the following specifications:
    a. Filter Media :   Pleated cellulose/reinforced polyester blend
    b. Filter Porosity: 5 microns
    c. Filter Area: 1,000 sq.inches per unit
    d. Filter Cleaning
        i. Filter cleaning shall be done by removal of the filter cartridge assembly and hosing the filter elements.
        ii. The filter cartridge assembly shall be removed and fixed without the aid of any tools.
        iii. The filter cartridge assembly shall be assembled into the robotic cleaner by means of snap fit clamps

11. The control system of the pool robotic cleaner should be equipped with a microprocessor that should be able to calculate the size of the pool and program itself into the most time and energy-efficient pattern using Adaptive Seek Control Logic (ASCL®).
12. The pool robotic cleaner shall be lubricated by the pool water and no organic lubrication shall be used in the unit.