# Model RSM-9125100

5 tiers Single-sided standalone Zebrafish Housing System(5TSS-ZHS)

| ZEBRAFISH HOUSING SYSTEM |
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| (1.0) USE AND FUNCTION OF EQUIPMENT |
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To supply one unit of zebrafish housing system that is designed and manufactured for the purpose of keeping zebrafish healthy and reproducing in suitable water conditions. It should consist of the essential components that are a standalone rack, zebrafish housing tank, breeding tank accessories

| (2.0) ESSENTIAL FEATURES OF EQUIPMENT |
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(2.1) AQUACULTURE RACK (1 UNIT)

(2.1.1) The standalone rack should be manufactured from 304 or 316 stainless steel.

(2.1.2) The piping system of standalone rack:

A. UPVC(PVC-U) pipe system, white color

B. Independent water inlet valve for each layer and each tank. Each layer pipe is detachable. Each tank water inlet valve is removable.

C. One tank has one flow control ball valve.

D. Each side has five shelf of 20 ball valves for 1.5 liter, 12 ball vaves for 3 liter and 10 liter tank

E. Each tier has control valve can adjust water flow.

F. Ball valves can easily clean, NPT fitting.

G. Food-grade blue silicone water inlet pipe will not harden after long-term use

(2.1.3) Standalone rack must have bio-technical sump in the lower part of the rack.

A. PP material board 8mm thickness

B. Pre-filter plate above the water

C. Biofilter packs for easy changing .

D. No hassle and operational pause.

(2.1.4) Standalone rack has low water level protection:

A. Wh.en the water level in the sump tank reaches the high level, the water pump, UV disinfector, and heater will turn on automatically.

B. If the water level drops to the low level, all systems will be automatically turned off for safety.

(2.1.5) Standalone rack must have a biological filter able to keep nitrogen compounds at safe levels:

A. Bio-filter media (165 x 365mm) 48 PCS x 3 packages

B. Bio-filter media (320 x 385mm) 12 PCS x 3 packages

C. Ca/Mg ion active bio-filter media 3 liter package x 3 PCS

D. Far infrared active bio-filter media 3 liter package x 3 PCS

E. Anion active filter bio-3 liter media package x   3 PCS

F. Glass ceramic ring bio-3 liter media package x 3 PCS

(2.1.6) The standalone rack uses an adjustable flow rate water pump, providing flexible usage. For example, when the number of tanks is high, the pump can operate at full capacity. When fewer tanks are in use, the flow rate can be adjusted to prevent the pump from overloading and overheating.

(2.1.7) The standalone rack must include UV disinfection and be equipped with a usage timer. It should notify the user to replace the UV bulb after 9,000 hours of usage to ensure optimal efficiency..

(2.1.8) The standalone rack must be equipped with a mechanical switch for quickly turning the system on or off:

A. Main flow pump control switch and feed mode: Adjustable to turn off the water pump for a while, and then turn it on automatically.

B. UV control switch and a usage time display(hours)

C. Heater control switch: Max 500 watt

D. Air pump control switch:

(2.1.9) The standalone rack must constantly monitor main water quality parameters (temperature, condition and pH) and keeping them as constant as possible at the pre-set value. The user needs to be able to set optimal points easily and through a touch screen control panel.

(2.1.10) The standalone rack must be provided with a touch screen control panel to perform system settings and track the water quality parameters.

A. Sensors: pH, conductivity, dissolved oxygen with temperature or others can be installed.

B. Intelligent Sensor Detection: If the HMI-PLC detects that pH, conductivity, temperature, dissolved oxygen sensors, or other sensors are installed, it can automatically link and control each sensor parameter.

C. Intelligent read sensor function: In order to extend the sensors use life, the reading time of the sensor during non-peak periods can be set to 1min/5min/10min/30min

D. Maintenance date records.

E. Water quality data can be exported from the control box to a USB memory stick

F. Services contacts information.

(2.1.11) The independent rack must include two automatic dosing pumps and buffer tanks, one for buffering water to control pH levels and the other for controlling conductivity.

(2.1.12) The standalone rack must have air pump with an silicone membrane diffuser tube：250mm*28mm

(2.1.13) The standalone rack equipped with letters and number for easy tank identification.

(2.2) ZEBRAFISH HOUSING TANK (62 UNITS) :

(2.2.1) Zebrafish housing tank must be manufactured from polycarbonate(PC) material.

(2.2.2) Zebrafish housing tank must come together with lids and dedicated baffles.

(2.2.3) Supplier should provide at least minimum of 20 units of 1.5L zebrafish housing tanks.

(2.2.4) Supplier should provide at least minimum of 36 units of 3L zebrafish housing tanks.

(2.2.5) Supplier shall provide at least 6 PCS of 3L stainless steel mesh baffles with a size of 500 μm to prevent the escape of larva fish

(2.2.6) Supplier shall provide at least 6 PCS of 3L stainless steel mesh baffles with a size of 750 μm to prevent the escape of juvenile fish

(2.2.7) Supplier should provide at least minimum of 6 units of 10L zebrafish housing tanks.

(2.2.8) Supplier should provide five sets of spawning feeding box

(2.3) BREEDING TANK (5 UNITS) :

(2.3.1) Breeding tank should be transparent and made of polycarbonate(PC).

(2.3.2) Breeding tanks should have top lids and separate baffles to facilitate zebrafish spawning

(2.4) Artemia hatchery (3 UNITS)

(2.4.1) Three of two liter artemia hatchery with one air pump

(2.5) Accessories

(2.5.1) Fish Net 4 inch 4 PCS

(2.5.2) Fish Net 8 inch 2 PCS

(3.0) OTHER REQUIREMENTS :

(3.1) The system installation should be carried out by a qualified engineer, and the engineer must provide the training certification from the manufacturer within one year.

(4.0) TRAINING :

(4.1) On-site training shall be provided by experienced trained engineer/application specialist when required.

(4.2) Provide on-site training which include introduction to the system, operations, safety precautions and howto cleaning

(5.0) WARRANTY PERIOD AND SERVICES :

(5.1) Warranty for the entire system shall be at least for three years.

(5.2) Throughout the warranty period, any default located and parts found defective shall be repaired and/or replace free of charge within the shortest time possible.

(5.3) The warranty including pH and conductivity sensors, free replacement if not working after calibration

(5.4) Supplier must provide sole agents letter for the brand model supplied.

(5.5) The supplier shall provide at least one (1) copy of the operation, troubleshooting and maintenance manuals of the complete system where applicable.

(5.6) The supplier must have a complete set-up with local after sales service support and technical application support.

*The above specifications are for reference only.*

# UPGRADE OPTIONS

**Below is a list of parts that can be upgraded for GENDANIO system**

| No. | SN | Description |
|---|---|---|
| 1 | AQ-6710U | Waterproof LED light with timer control |
| 2 | AQ-6720U | HMI-PLC temperature control |
| 3 | AQ-6810U | Data logger and automatic export to USB disk function |
| 4 | AQ-6820U | Remote data monitoring function via WiFi |
| 5 | AQ-6921U | Upgrade to pH sensor controller |
| 6 | AQ-6922U | Upgrade to conductivity sensor controller |
| 7 | AQ-6924U | Upgrade to dissolved oxygen sensor controller |

# SPARE

**Spare Parts List**

| No. | SN | Description |
|---|---|---|
| 1 | T-CLPC-015 | 1.5 Liter Classic PC Tank Set |
| 2 | T-AZPC-015 | 1.5 Liter Classic PC Tank Set, baffle Improved |
| 3 | T-CLPC-030 | 3.0 Liter Classic PC Tank Set |
| 4 | T-CLPC-032 | 3.0 Liter Classic PC Tank Set, Lid improved |
| 5 | T-CLPC-100 | 10.0 Liter Classic Tank Set |
| 6 | T-CLPC-102 | 10.0 Liter Classic Tank Set, Lid improved |
| 7 | T-AZPC-040 | 4.0 Liter AQUAZOO Tank Set |
| 8 | T-AZPC-080 | 8.0 Liter AQUAZOO Tank Set |
| 9 | T-030-500 | 3L Baffle 500um netting for larvae fish (6 weeks~) |
| 10 | T-030-500 | 3L Baffle 750um netting for larvae fish (2 months~) |
| 11 | T-030-500S | 3L Baffle SS304 netting 500um for larvae fish (4 dpf to 5 weeks) |
| 12 | T-030-750S | 3L Baffle SS304 netting 750um for larvae fish (2 months~) |
| 13 | T-040-500 | 4L Baffle 500um netting for larvae fish (1 month~) |

*To ensure the integrity of the equipment and consistency in after-sales service, some additional accessories or spare parts must be ordered together with the main equipment.*

# Components

Certain components in the equipment, such as the pump motor, heating element and sensors, are consumables with an unpredictable lifespan. They may wear out or fail due to various factors during
use. We recommend regularly checking these parts, and if any malfunction or failure is detected, they should be replaced immediately to ensure the proper functioning of the equipment.
If the original parts are no longer in production, the replacement will be made with a tested,
equivalent part that meets the same specifications.

**Components List:**

| No. | SN | Description |
|---|---|---|
| 1 | Heater-300 | Heater-300 watt with temperature control |
| 2 | Heater-350 | Heater-350 watt with temperature control |
| 3 | Heater-450 | Heater-450 watt with temperature control |
| 4 | Heater-500 | Heater-500 watt with temperature control |
| 5 | MD-18 | Main water pump 72~95/min, 180Watt |
| 6 | MD-25 | Main water pump 118~120L/min, 250Watt |
| 7 | DS-4000 | Main water pump 50~65L/min, 30Watt |
| 8 | DS-6000 | Main water pump 80~100L/min, 50Watt |
| 9 | DS-9000 | Main water pump 130~150L/min, 73Watt |
| 10 | DS-12000 | Main water pump 180~200L/min, 88Watt |
| 11 | UVC-842T5 | UVC 39 watt lamp |
| 12 | UVC-645T5 | UVC 32 watt lamp |
| 13 | UVC-450T5 | UVC 24 watt lamp |
| 14 | AQ-6920 | Industrial pH Sensor with IP65 Waterproof Protection (BNC) |
| 15 | AQ-6921 | Industrial pH Sensor with IP65 Waterproof Protection |
| 16 | AQ-6922 | Industrial Conductivity Sensor with IP65 Waterproof Protection |
| 17 | AQ-6924 | Industrial Dissolved Oxygen Sensor with IP65 Waterproof Protection |

# BIOFILTER & CONSUMABLES

**Biofilter media and consumables list**

| No. | SN | Description |
|---|---|---|
| 1 | FM-1010 | Magnesium Ion Active Biofilter, 3 Liter Pack |
| 2 | FM-1020 | Far Infrared Rays Active Biofilter, Mesh 3 Liter Pack |
| 3 | FM-1030 | Anion Filter, Active Biofilter 3L Liter Pack |
| 4 | FM-1040 | Ceramics Bio-media, Mesh 3 Liter Pack |
| 5 | FM-SA355165 | Sponge/filter media, length355mm, width165mm 48 PCS |
| 6 | FM-SA385320 | Sponge/filter media, length385mm, width320mm 12 PCS |
| 7 | FM-SA385270 | Sponge/filter media, length385mm, width270mm 24 PCS |

*All specifications reserve the right to revise errors*
*Contents must be confirmed before shipment*