

SYSTEM OVERVIEW

The **Aqua-60** is an advanced, high-density incubation station precision-engineered by Ag Tech Manufacturing for commercial fish hatcheries. Purpose-built to handle early-stage incubation, this system is capable of tumbling and hatching up to **60,000 fish eggs per month**.

By utilizing specialized constant-suspend fluid mechanics, the system maintains eggs in a continuous fluid upwelling state. This prevents friction-induced damage, mold colonization, and hypoxic dead zones, ensuring an industry-leading hatching uniformity and survival yield across cohorts.

Fluid Dynamic Design

The system relies on a perfectly synchronized hydrodynamic balance. Water flows vertically via precision-calibrated valves into specialized clear vessels to create an ideal vortex, overflowing into individual nursery reservoirs before gravity-dropping into the centralized bioprocessing sump below.

INTEGRATED HARDWARE & LIFECYCLE ARCHITECTURE

Subsystem	Engineering Specifications & Capabilities
Macdonald Jars	Three (3) heavy-duty clear acrylic hatching jars. Configured with a distinct hemispherical concave base that smoothly redirects vertical water columns into an unbroken, uniform suspension vortex.
Drive Pump Node	High-pressure, low-vibration 1/10 HP industrial water pump. Calibrated to maintain uniform fluid velocities across all three incubation lines without shearing delicate embryos.
Capture Reservoirs	Three (3) clear intermediate collection modules equipped with integrated mesh bulkheads. Automatically houses and segregates swimming larvae immediately post-hatch for easy census and transfer.
UV Sanitization	High-intensity inline UV-C sterilization system mounted directly along the pressurized water loop, continuously eliminating fungal spores and bacterial vectors.
Filtration Array	Integrated multi-stage solid separator and passive biofilter sump tank underneath the frame, removing organic particulate and executing rapid nitrification.

SYSTEM CAPABILITIES

60,000 EGGS / MONTH	1/10 HP PUMP RATING
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TECHNICAL SPECIFICATIONS

Model Reference	AQUA-60-H1
Incubation Units	3x Macdonald Jars
Output Capacity	60K eggs / month
Sanitization	Inline UV-C Shield
Sensor Telemetry	pH, DO, Temp, Levels
Photoperiod	Smart Programmed Grid
Frame Structure	Structural Welded Alum
Plumbing System	Schedule 40 PVC Form
Sump Footprint	Composite Multi-Stage

ECOSYSTEM VECTOR

The Aqua-60 acts as the baseline propagation node within Ag Tech Manufacturing's multi-tier food production pipeline:

- Aqua-5000 Nursery Array
- Intelligent Aquaponics (IAS1200)
- Vertical Towers (TS40 / TS60)

COMMERCIAL FRAMEWORK

Ag Tech Manufacturing delivers complete engineering coverage from specialized **Manufacturing** and

AUTONOMOUS MONITORING & CONTROL CONSOLE

The Aqua-60 incorporates a centralized, moisture-isolated industrial control module. Interfaced with high-durability sensors, it actively monitors system diagnostics to guarantee biosecurity:

- **Real-Time Telemetry Tracking:** Continuous, active probe reading of **pH**, Dissolved Oxygen (**DO**), Temperature (**T_w**), and liquid sump levels.
- **Integrated Light Scheduling:** Built-in programmable timing automation regulating overhead lighting arrays to maintain optimal circadian and developmental schedules.

precision site **Implementation** to
commercial **Sale** operation lines.