

WHY THIS DOCUMENT MATTERS

Traditional counters were designed for clean-water fish farming, not shrimp ponds. Sincere Aqua was engineered from the ground up for the realities of shrimp transfers: dirty water, debris, overlapping animals, and shifting average weights. This document outlines the core technology differences and why they matter for your count accuracy and operational efficiency.

Capability	Sincere Aqua	Traditional Counters
Detection Method	AI object detection - identifies each shrimp by both eyes and body shape.	Shadow detection with background subtraction - relies on silhouette only.
Tracking	Full multi-object tracking across frames - each shrimp is followed end-to-end.	No tracking - each frame is evaluated independently.
Overlapping Shrimp	Counted correctly - the AI separates individuals even when bodies overlap by recognizing eye pairs.	Miscounted or missed - overlapping silhouettes appear as a single shadow.
Debris & Dirty Water	Up to 90% reduction in false counts from debris, leaves, molts, and other non-shrimp objects.	No object discrimination - any shadow of the right size can register as a shrimp.
Water Separation	Total dewatering on a conveyor belt, followed by controlled water flow from internal pumps before counting - shrimp are presented in a consistent, calibrated flow.	Partial dewatering - shrimp are counted while still surrounded by variable water volume.
Flow Control	Internal pumps deliver a precise, regulated water flow after dewatering, so every shrimp passes the sensor under the same conditions.	Operator must manually adjust dewatering and flow throughout the transfer.
Calibration During Transfer	Not required - weight variation does not affect detection because counting is based on identity, not size.	Required - operator must recalibrate as average shrimp weight changes during transfer.
Size & Weight Measurement	Measures individual size and reports total biomass for the entire transfer - count, size distribution, and weight in one pass.	Count only - no size or weight data for the transfer.
Designed For	Shrimp transfers in commercial pond conditions.	Salmonid and other fish species in clean water.



See the Difference

Both images below show the same kind of scene - shrimp moving past a sensor - but the machines see them in completely different ways

SINCERE AQUA



AI Detection With Tracking

Each shrimp is individually identified by its eyes and body, boxed, and tracked - even when animals overlap or debris is present in the frame.

TRADITIONAL COUNTER



Shadow Detection Only

Every shrimp reduces to a silhouette. Overlapping bodies merge into single blobs. Debris and molts look identical to shrimp. No way to tell one from another.

Five Engineering Advantages That Change the Count

1**AI Object Detection With Tracking**

Sincere Aqua uses deep-learning object detection to recognize each shrimp by its eyes and body, then tracks each individual across the full field of view. This eliminates double-counts, missed counts, and the frame-by-frame guesswork of shadow-based systems.

2**Counts Overlapping Shrimp**

When two shrimp travel side-by-side or briefly stack, shadow detection sees one silhouette and records one shrimp. Sincere Aqua identifies the distinct eye pairs and body outlines and counts both - a significant accuracy gain in high-density transfers.

3**Debris Rejection Up to 90%**

Molts, leaves, organic matter, and other non-shrimp objects are common in pond water. Sincere Aqua's AI classifier rejects these objects with up to 90% reduction in false counts. Shadow-based systems register many of these as shrimp.

4**Total Dewatering Plus Controlled Water Flow**

Sincere Aqua first removes all water from the shrimp on a conveyor belt, then reintroduces a precisely controlled water flow via internal pumps before the shrimp reach the counting sensor. This two-stage approach isolates the shrimp from the variable, debris-heavy source water and presents them to the AI in consistent, calibrated conditions on every run - no operator re-tuning required.

5**Size and Total Biomass in One Pass**

Sincere Aqua measures some of the shrimp as it passes and reports the size distribution of the entire transfer alongside the count. Traditional counters provide only a count - leaving you to estimate biomass weight separately. With Sincere Aqua, you leave the transfer knowing how many and how big.



Why Pond Conditions Change Everything

THE SHRIMP POND REALITY

Shrimp ponds are not salmon pins. During a transfer, the pond water flow contains:

- Suspended sediment, algae, and organic matter
- Molts, shells, leaves, and miscellaneous debris
- High shrimp density causing frequent overlap between animals

Average weight that shifts as different size classes pass through Shadow-based counters cannot distinguish a shrimp from a molt of the same size, cannot separate two overlapping animals, and require constant recalibration as weights change. Sincere Aqua was built for exactly these conditions.

No Calibration. No Human Error. Any Size.

Traditional counters require the operator to calibrate the machine before every transfer and again whenever the average weight drifts. Sincere Aqua counts by identity - not by size - so calibration is eliminated across the full production range.

SINCERE AQUA WORKFLOW

1. Power on the machine.
2. Start the transfer.
3. AI counts, sizes, and weighs automatically.
4. Same accuracy for shrimp from 0.1g to 10g - no settings to change.

TRADITIONAL COUNTER WORKFLOW

1. Sample shrimp to estimate average weight.
2. Calibrate the machine to that size class.
3. Start the transfer - monitor and adjust dewatering manually.
4. As average weight drifts mid-transfer, re-sample and recalibrate.
5. Every manual step is another chance for human error.

THE HIDDEN COST OF CALIBRATION

Every calibration step on a traditional counter depends on an operator making the right judgment at the right moment. A misread average weight, a delayed recalibration, a distracted adjustment of the flow - any one of these introduces error that compounds across the full transfer.

Sincere Aqua removes the operator from the accuracy equation. The same unit delivers the same accuracy for shrimp from 0.1 grams to 10 grams - no size presets, no mid-transfer recalibration, no variation between operators or shifts.



Proven in the Field

These are not laboratory claims. The results below come from 6 different 2026 accuracy tests at multiple farms in Ecuador.

97.6%
AVERAGE COUNTING
ACCURACY

SINCERE AQUA - 2026

Manual verification count: 59,732 shrimp

Sincere Aqua recorded count: 57,976 shrimp

Verified accuracy: 97.6% - independently validated
and hand-counted across 6 tests

Field Test Validation

Hand Count	Sincere Counter	Accuracy	Accuracy Date
17,032 shrimp	17,124 shrimp	99,5%	3. February
22,679 shrimp	21,547 shrimp	95%	3. March
879 shrimp	871 shrimp	99%	21. March
1,493 shrimp	1498 shrimp	100%	1. April
1,635 shrimp	1,574 shrimp	96%	1. April
16,014 shrimp	15,362 shrimp	96%	1. April

A CONSISTENT TRACK RECORD

Sincere Aqua shrimp counters consistently deliver above 95% counting accuracy - proven across multiple farms, transfer sizes, and operating conditions.



Operational results

These are not laboratory claims. The results below come from 6 different 2026 transfers at multiple farms in Ecuador.

99,34%
AVERAGE SURVIVAL
RATE

SINCERE AQUA - 2026

Transferred: 13,203,140 shrimp

Shrimp survived transfer: **13,114,427 shrimp**

Verified survival: 99,34% - independently
validated across 6 transfers.

Field Test Validation

Amount Transferred	Survival Rate	Average weight	Date
2,890,129 shrimp	99,34%	0,9 grams	6. February
1,336,119 shrimp	99,7%	0,19 grams	2. March
2,413,834 shrimp	100%	0,5 grams	3. March
1,873,910 shrimp	99%	1,2 grams	14. March
1,948,027 shrimp	99%	1,2 grams	14. March
2,741,121 shrimp	99%	4,5 grams	6. April



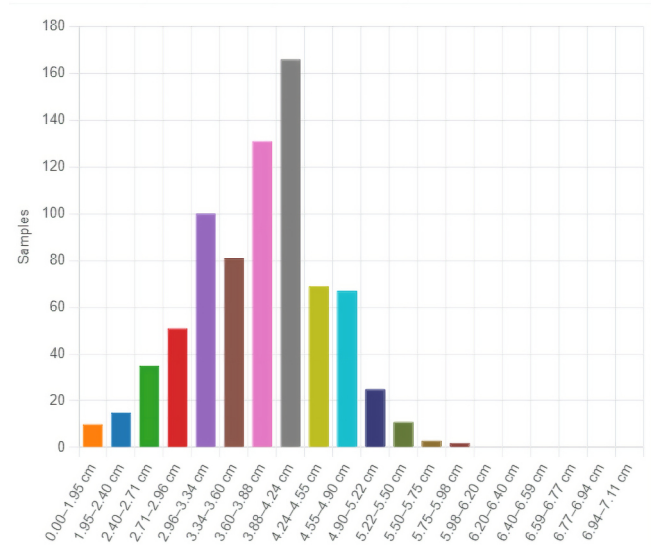
Size Variation During Transfer

Sizes during a transfer vary significantly, as reported by our size and weight feature. Below, you can see a graph from one of the many transfers conducted.

Size & Weight Distribution (BETA)

SIZE (CM)	SAMPLE AMOUNT	% OF TOTAL
0.00-1.95 cm (0.0-0.1 g)	10	1.3%
1.95-2.40 cm (0.1-0.2 g)	15	2.0%
2.40-2.71 cm (0.2-0.3 g)	35	4.6%
2.71-2.96 cm (0.3-0.4 g)	51	6.7%
2.96-3.34 cm (0.4-0.6 g)	100	13.1%
3.34-3.60 cm (0.6-0.8 g)	81	10.6%
3.60-3.88 cm (0.8-1.0 g)	131	17.1%
3.88-4.24 cm (1.0-1.3 g)	166	21.7%
4.24-4.55 cm (1.3-1.6 g)	69	9.0%
4.55-4.90 cm (1.6-2.0 g)	67	8.7%
4.90-5.22 cm (2.0-2.4 g)	25	3.3%
5.22-5.50 cm (2.4-2.8 g)	11	1.4%
5.50-5.75 cm (2.8-3.2 g)	3	0.4%
5.75-5.98 cm (3.2-3.6 g)	2	0.3%
5.98-6.20 cm (3.6-4.0 g)	0	0.0%
6.20-6.40 cm (4.0-4.4 g)	0	0.0%

Size Distribution Chart (BETA)



1g

Average Weight

THE BOTTOM LINE

More accurate counts. Less operator intervention. No recalibration mid-transfer. Sincere Aqua delivers dependable numbers in the conditions where traditional counters fall short.

