

Your Trusted Cooperative Partner

- Eco - Aquaculture Equipment
- Industrial Eco - RAS Aquaculture System
- Intelligent Poultry & Livestock Farming Products
- Design & Engineering Services
- Software Monitoring & Control System
- Service & Support



Sustainable Aquaculture Technology and Equipment



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QINGDAO HISHING SMART EQUIPMENT CO., LTD.

All designs and specifications are for reference only and are subject to change without prior notice.

3	Preface	41	Circular Aquaculture Tank
4	Company Profile	42	Square / Rectangular Tank
9	Certificate	43	Vertical Flow Settler
10	Pneumatic Feeding System	44	Land based RAS
14	Ocean Farming Feeding System	45	RAS Process Flow
15	Pellet & Water Feeding System	46	SMART Aquaculture Factory
16	Air Blowing Feeding System	47	References
18	Fixed Type Pellet Feeder	50	RAS Experimental System
20	SMART Rotary Drum Filter	52	RAS Fry Culture System
26	SMART Tail Water Filter	54	
27	Solid Filter & Recycler	55	Internet of Thing
28	Protein Skimmer	56	AI Vision Egg Counter
29	UV Sterilizer	57	Laser Type Egg Counting System
34	Oxygen Cone	58	Environment Controller
35	Oxygen Distribution Box	59	Pellet Pneumatic Conveying system
36	Oxygenation Device		
37	CO ₂ Degassing Device		
38	Fish & Shrimp Pump		
39	On Line Water Quality Monitor		
40	IOT Optical DO Instrument		

To our valued customers:

The entire team at QINGDAO HISHING SMART EQUIPMENT CO., LTD. would like to take the opportunity to say thank you for supporting us!

We have a complete set of R&D, design, manufacturing, sales, technical support, and after-sales service system. We will continue to provide you with high-quality, high-tech, high reliability and cost-effective system and equipment, perfect technical support and high-quality after-sales service to and join hands with you to create the future.

Thank you for your patronage and support. We look forward to continuing to serve you.

Yang Tao
General Manager

QINGDAO HISHING SMART EQUIPMENT CO., LTD.



About HISHING



HISHING was founded in 2007, it covers about 1400 m², with mechanical workshop, automation workshop, office building, dormitories & canteens.

HISHING is a high-tech enterprise specialized in R&D, manufacturing, sales, installation & service for the RAS aquaculture system and equipment, poultry & livestock farming products, sea cages farming system & equipment, aquaculture wastewater treatment system, smart culture management system and internet of things.

HISHING has a complete system of research and development, manufacturing, sales, technical support, and after-sales service guarantee, providing customers with more value-added services.



Industry University Research Cooperation

The company has a long-term good cooperative relationship with IOCAS, YSFRI, ECSF, Zhejiang University, Dalian Ocean University, Ningbo University, Shandong University, Tianjin University of Science and Technology, Ocean University of China, Qingdao University of Science and Technology, etc.

HISHING is also the first enterprise in China to engage in the research and development, application, and conversion of complete sets of intelligent equipment for industrial circular aquaculture systems. It quickly converts scientific research achievements into productivity and provides customers with high-quality, high-tech, high reliability, and cost-effective intelligent equipment for recirculating aquaculture.



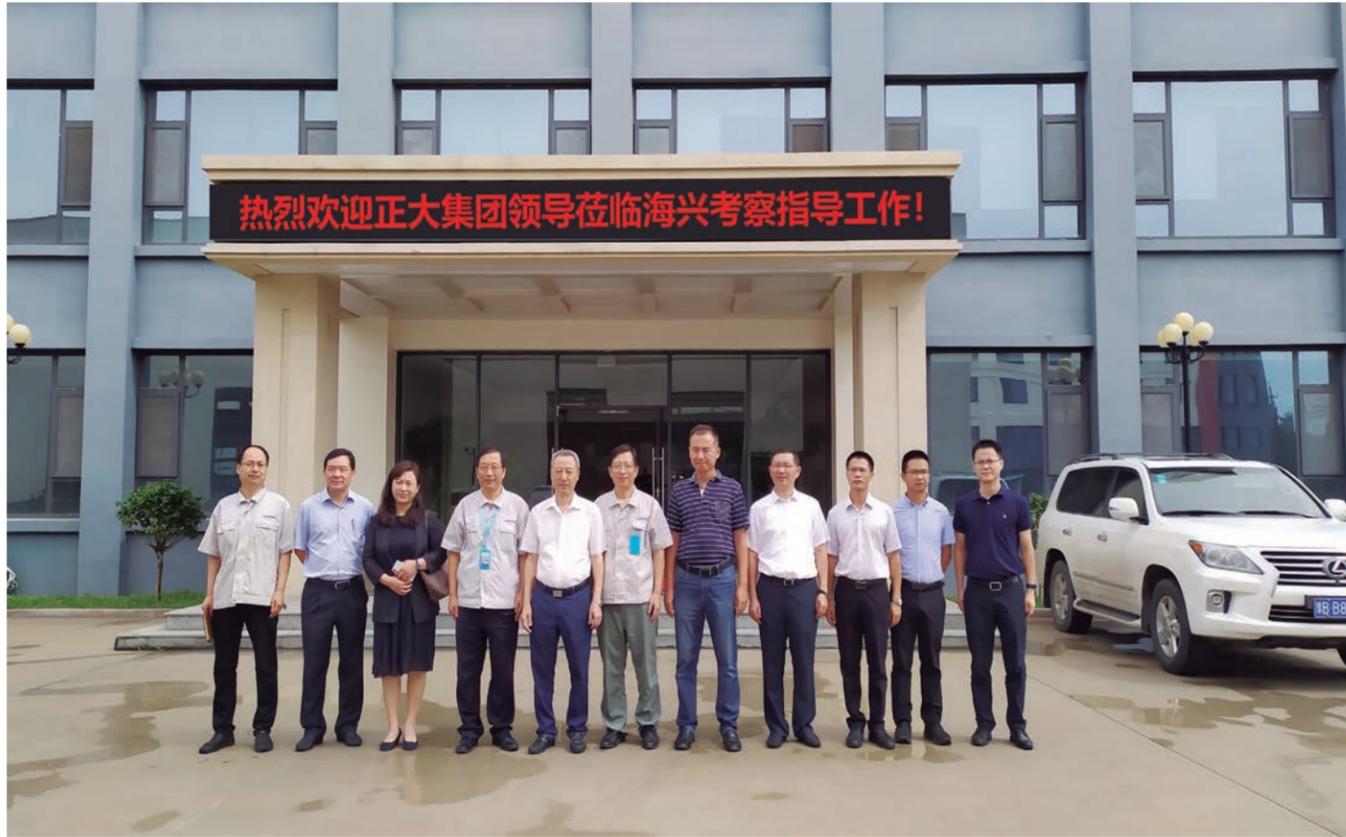
Advanced Production Equipment & Facilities

HISHING has 4 sets of mechanical production lines, 5 sets of electronical special production lines, and 69 sets of all kinds of instruments and equipment. Besides, HISHING also has electrical SMT line and AOI series testing special equipment. Those equipment and instruments enable HISHING a powerful production capacity.

Leading R&D team

The R&D team has completed a large amount of research and development and trial production of aquaculture equipment over the years. HISHING has been authorized nearly a hundred of patents, and the R&D team with rich experience has put the company in a leading position in the field of recirculating water aquaculture equipment in China.



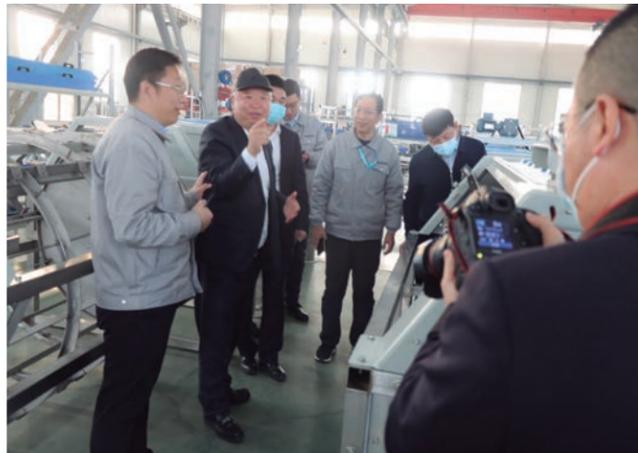


Strict Quality Management

HISHING has passed the certification of ISO9001:2015 quality management system, ISO14001:2015 environmental management system, ISO45001:2018 occupational health and safety management system. The company implements strict and perfect quality management, which strictly controls the quality from the parts entering the factory, process inspection to factory inspection. The products have been widely praised and unanimously praised by a large number of famous Chinese aquaculture enterprises, scientific research institutes and colleges.

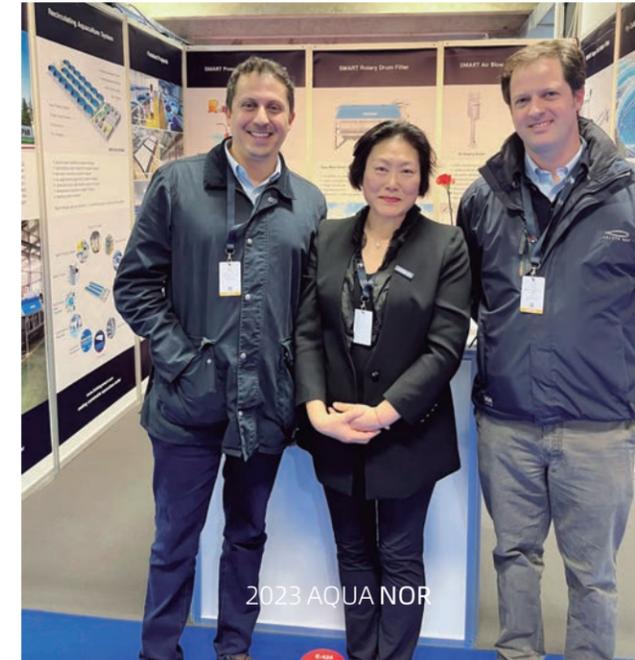
Satisfied Technical Supports & Services

HISHING has excellent technical support & service teams, among which, there are 4 after sales service teams, and 3 resident regional service teams. They provide high quality, convenient and timely before-sales supports and after-sales maintenance service to our clients. HISHING has obtained a good reputation for their satisfied technical supports & services.

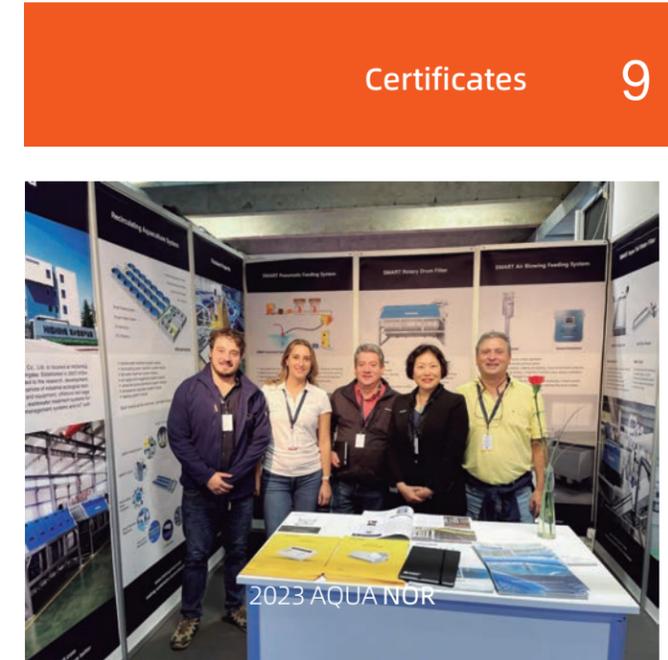




广州中山大学科学院



2023 AQUA NOR



2023 AQUA NOR



2021 NOR FISHING



2021 WAS Canada



South Korea Partner

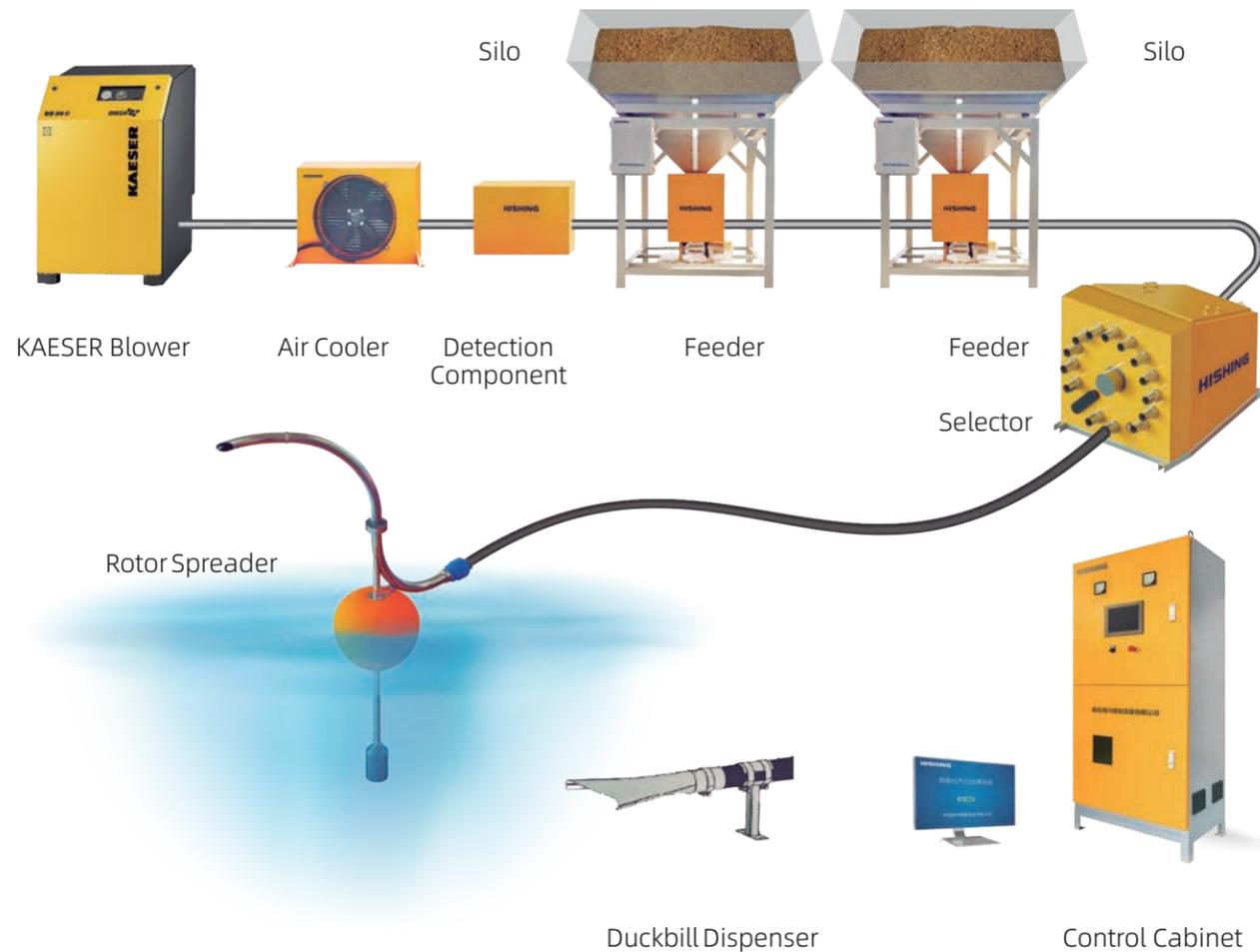


2022 WAS Singapore



2023 USA RASTECH





Smart pneumatic feeding system is an advanced centralized feeding system, suitable for multiple types of aquaculture, such as sea cages, fresh water cages, RAS, and pond aquaculture, etc.

It is a positive pressure dilute phase pneumatic conveying system, pellets are conveyed to tanks by high speed air flows. The system automatically feed at fixed time, quantity and parameters, with the function of feeding setting, parameter reading, historical data obtaining and saving, etc. at site or via remote operation, to achieve full automatic feeding without human on duty, to meet the modern industrial aquaculture requirements.

One System for Multiple Culture Areas

- One system can supply multiple ponds at request, 12/32 pipes is the standard currently.

Accurate Scaling

- feeding weight tolerance within 3%, accurate fixed location, fixed quantity & fixed time feeding.

Low Broken rate

- the pellet breakage rate, measured between 1% - 4%, significantly reduces pellet loss and reduces costs.

Clean and No-residue

- No pellets residue in the pipeline, therefore there is no pellets pollution.

Secured Transmission

- the pipeline is a complete PE pipe, which has good sealing performance, high strength, and it can work 24H/7D.

Fast Conveying Speed

- feeding speed up to 350 kgs / minute

Large Conveying Quantity

- continuous conveying, max.up to 20 mt / hour

Long Distance Conveying

- 400 / 600 meters two optional, others at request

Full Auto Control

- full auto-mode without human interference

Remote Monitoring & Operating

- the system can be monitored and operated at site, or control enter, or through internet, or through the handheld terminals.

Feeding Records for Internet of Things

- the historical feeding data can be remote viewed via internet and exported as EXCEL tables, it makes an easy comparison to enable the accurate financial analysis.

TYPE		HS-PFS-32	HS-PFS-63	HS-PFS-90
Feeding Points Quantity (maximum)		32	32	24
Pellet Feeding Data (Per Feeding Line)				
Pellet Size (Max.)	mm	5 ~ 7	9 ~ 12	17 ~ 25
Pellet Size (Min.)	mm	0.5	1	3
Feeding Q'ty (Max.)	kg/hr.	-	1200	-
Feeding Speed (Max.)	kg/min.	10	20	50
Feeding Speed (Min.)	kg/min.	3.6	12	24
Pipeline Length (Max.)	m	300	600	800
Feeding Speed (Max.) at Max. Pipeline Length	kg/min	3.6	12	24
Feeding Speed (Max.) at 50% Max. Pipeline Length	kg/min	5.4	15	34
Feeding Speed (Max.) at Min. Pipeline Length	kg/min	10	20	50
SYSTEM CONFIGURATION				
SMART Control Cabinet	kW	6 ~ 8	11.5 ~ 15.5	15.5 ~ 22.5
Roots Blower	kW	7.5	11 ~ 15	18.5 ~ 22
Cooler	kW	-	0.2	0.5
Feeder	kW	0.4	0.4	0.4
Selector	kW	-	-	-
Pellet Bucket Elevator	kW	1.5	1.5	1.5
Silos	m ³	1.5/ 2.8/ 8	1.5/ 2.8/ 8	1.5/ 2.8/ 8
Rotor Spreader	pcs	≤ 32	≤ 32	≤ 24
Rotating Spreading Diameter	m (adjustable)	3 ~ 12	4 ~ 12	5 ~ 18
Duckbill Dispenser	pcs	≤ 32	≤ 32	≤ 24
Duckbill Spraying Distance	m (adjustable)	2 ~ 6	2 ~ 6	3 ~ 9
Software		customized		

Note: The parameters are for reference only and are subject to actual conditions.

Suzhou Tongli National Modern Agricultural Park

July ~ October, 2016

The 1st batch of pilot bases for ecological aquaculture of pond recirculating water in Jiangsu Province. It have introduced intelligent feeding equipment, with accurate feeding time and amount based on the species and specifications of fish.



Offshore Fish Farm, Singapore

April ~ June, 2019

Singapore's offshore enclosed floating aquaculture farm is equipped with four giant fish ponds, 500m³/each, capable of 40000 to 50000 fish, 24 tons/year, and 50kgs/m³. Species: red snapper, golden perch and grouper.



Yadong Salmon Health Cultivation Project

August, 2019 - March, 2020

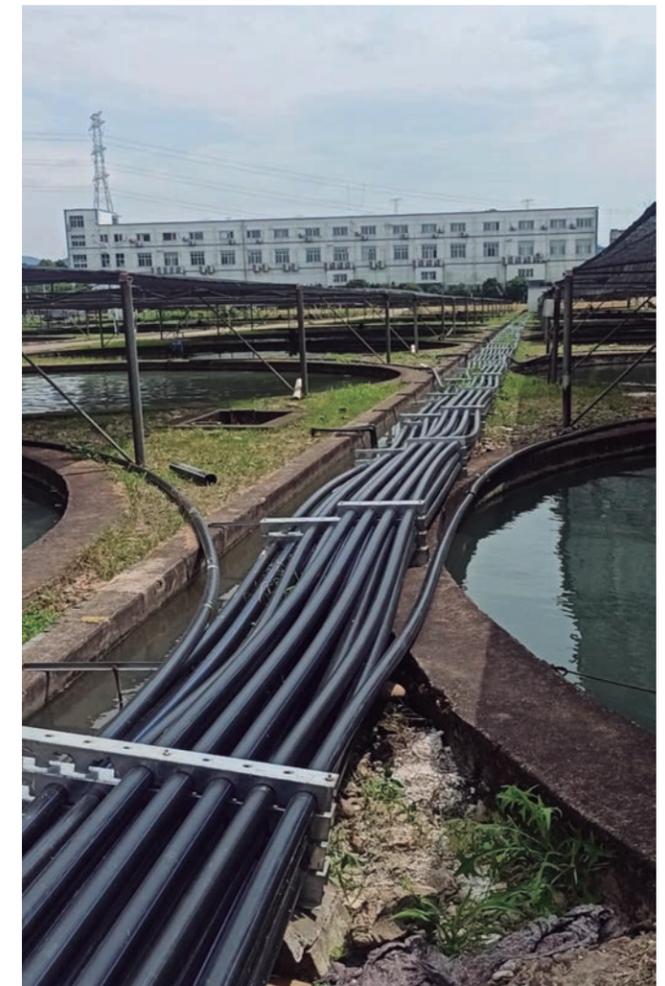
The project consists of five stages: egg incubation, 2g, 10g & 100g fry cultivation, cultivation to 1kg commercial salmon. It can hatch 6 million eggs, cultivate 1.25-1.5 million fingerling, 400000 commercial fish.



Quzhou Sturgeon Project

October, 2021 - May, 2022

The largest sturgeon aquaculture and processing center in China, capable of producing up to nearly 200 tons of caviar annually.



The advanced centralized feeding system is specially for industrial recirculating aquaculture system, marine cage culture and deep-sea aquaculture craft.

It is a positive dilute phase pneumatic conveying system, using high-speed air flow to transport feed pellet to the aquaculture pond for spreading or spraying, to realize auto-feeding at fixed time, quantity and parameters.

The system can complete settings, parameter reading, historical data acquisition and storage by selecting field or remote operation, realize unattended automatic feeding, and meet the needs of modern industrialized marine cage culture and deep-sea aquaculture.



Modular Design

- Blower, fans, coolers, silos, feeders, selector, automatic control systems are integrated in the container, which can work intelligently and automatically without human interference.

Standardized Manufacturing

- System are installed in the container strictly according to the drawing size, which solves the quality problem of inaccurate equipment positioning that may occur at site.

Turnkey Project

- Comprehensive function test and overall quality acceptance are carried out to solve various problems that may occur during on-line commissioning on site to ensure the project being completed on time.

Reliable Transportation, Easy Installation

- In one container transportation, one time installed at site and start working once with power, greatly saves the installation time and improves the efficiency.

Good Overall Stability

- The equipment is installed on the container solid bottom plate. When the floating platform shakes, the container shakes as a whole, which has no impact on the connecting parts between the single equipment.

Good Sealing Performance

- Standardized designed container shell with good sealing performance, solves the moisture-proof problem of the equipment under high humidity and improves the service life of the equipment.

Convenient Operation & Maintenance

- Sealed doors at both ends of the container to facilitate the entry and exit, with personnel operation doors on the side. Safety ladders to the top of the container. Small crane loads pellets fast and reliable.

Good Mobility, High Recovery Value

- When the system needs to be moved to another place, it can be lifted directly, the secondary installation quality will not be affected.

Good Pellet Sealing

- The silo is located inside the sealed container, the blanking port is on the top. It adopts stainless steel flange manhole cover, which is reliable and not afraid of wind and rain.

Nice Appearance

- The container shell is produced by large manufacturers, the painted surface can be used for more than 5 years, with customizable colors.

Through the principle of Venturi, the pellet & water feeding system pump pellets into the water, then transported to various tanks to achieve timed, fixed-point, and quantitative feeding, effectively reducing the rate of pellet breakage.

The system has industrial PLC+HMI control, the operator completes feeding settings, historical data acquisition and storage through the touch screen, which meets the needs of modern factory aquaculture and research institute aquaculture experiments.

TYPE	HS-WFS20	HS-WFS40
Feeding Points Quantity	20 pcs	40 pcs
Silos volume / quantity	300 L/pc, 2pcs	300 L/pc, 2pcs
Pellets Size	0.5 ~ 1.4mm	0.5 ~ 1.4mm
Feeding Speed	2 kgs/min.	2 kgs/min.
Feeding Accuracy	> 97%	> 97%
Pellet Breakage Rate	< 1%	< 1%
Feed Dissolution Rate	Slight Dissolution	Slight Dissolution
Rotating Spreading Diameter	4 ~ 7 meters (adjustable)	4 ~ 7 meters (adjustable)
Feed Spreading Pattern	Rotating Spreading	Rotating Spreading
Water Pump Power	4.00 kW	4.00 kW
Water Consumption	8 ~ 10 m ³ /h	8 ~ 10 m ³ /h
Feeding Sequence	each tank in sequence	each tank in sequence
Main Equipment Footprint	7*4 m (L*W)	7*4 m (L*W)
Main Equipment Frame Material	SS 316L	SS 316L
Working Voltage	AC380V±7% (3 phase 5 wire)	AC380V±7% (3 phase 5 wire)
Touch Screen	10 inch	10 inch
Control Cabinet Main Functions	status monitoring, feed setting, historical data acquisition and storage	
Network Interface	•	•
Remote Communication IoT functions	•	•

• available
Note: Metal supports and other ancillary components for civil engineering and pipeline support are not included.



16 Air Blowing Feeding System

The feeders are fixed at the side of the aquaculture tanks. Feeder impeller push pellets into the feeding pipe. The continuous compressed air inside the pipe blows the pellets into the aquaculture tanks. All feeders working at the same time, all feeding settings, duration data acquisition and storage can be completed on one touch screen.

- IP67 control box
- LORA wireless terminal communication, low power consumption, stability and reliability, and long transmission distance.
- Centralized control system, 1 host PLC control many slaves controllers. 1 slave controller manager 4 sets of feeders. One system consist of 160 sets of feeders controlled by 1 touch screen .
- Touch Screen operation
- The mobile APP & LAN can synchronously operate the touch screen.
- with a network interface, for IOT functions.



TYPE	HS-FF2-2-AB	HS-FF4-4-AB	HS-FF4-8-AB	HS-FF4-10-AB	HS-FF4-14-AB
Pellet Size (Min.)	0.5 mm	0.5 mm	2 mm	2 mm	4 mm
Pellet Size (Max.)	2 mm	4 mm	8 mm	10 mm	14 mm
Silo Capacity*	15 L	25 L	15 L	60 L	110 L
Feeding Speed (Max.)	2 kg/min.	4 kg/min.	4 kg/min.	4 kg/min.	4 kg/min.
Feeding Type	air blowing				
Power	15 W	25 W	25 W	25 W	25 W
Power Supply	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz
Air Source**	Roots Blower				
Air Source Power Supply	3-phase 4-wire /380V/50Hz				
Feeder L*W*H (mm)	280*280*1400	280*280*1500	280*280*1400	500*500*1500	700*700*1500
Master Control Box L*W*H (mm)	500*600*180	500*600*180	500*600*180	500*600*180	500*600*180
Touch Screen	Industrial grade 10 inch				
Slave Controllers Q'ty (Max.) controlled by 1 master controller	40 sets				
Slave Control Box L*W*H (mm)	220*220*120	220*220*120	220*220*120	220*220*120	220*220*120
Feeders Q'ty (Max.) controlled by 1 slave controller	4 sets				
Control Box IP Grade	IP67	IP67	IP67	IP67	IP67

* Silo capacity can be customized;

** Multiple feeders use Roots blower for air supply source;

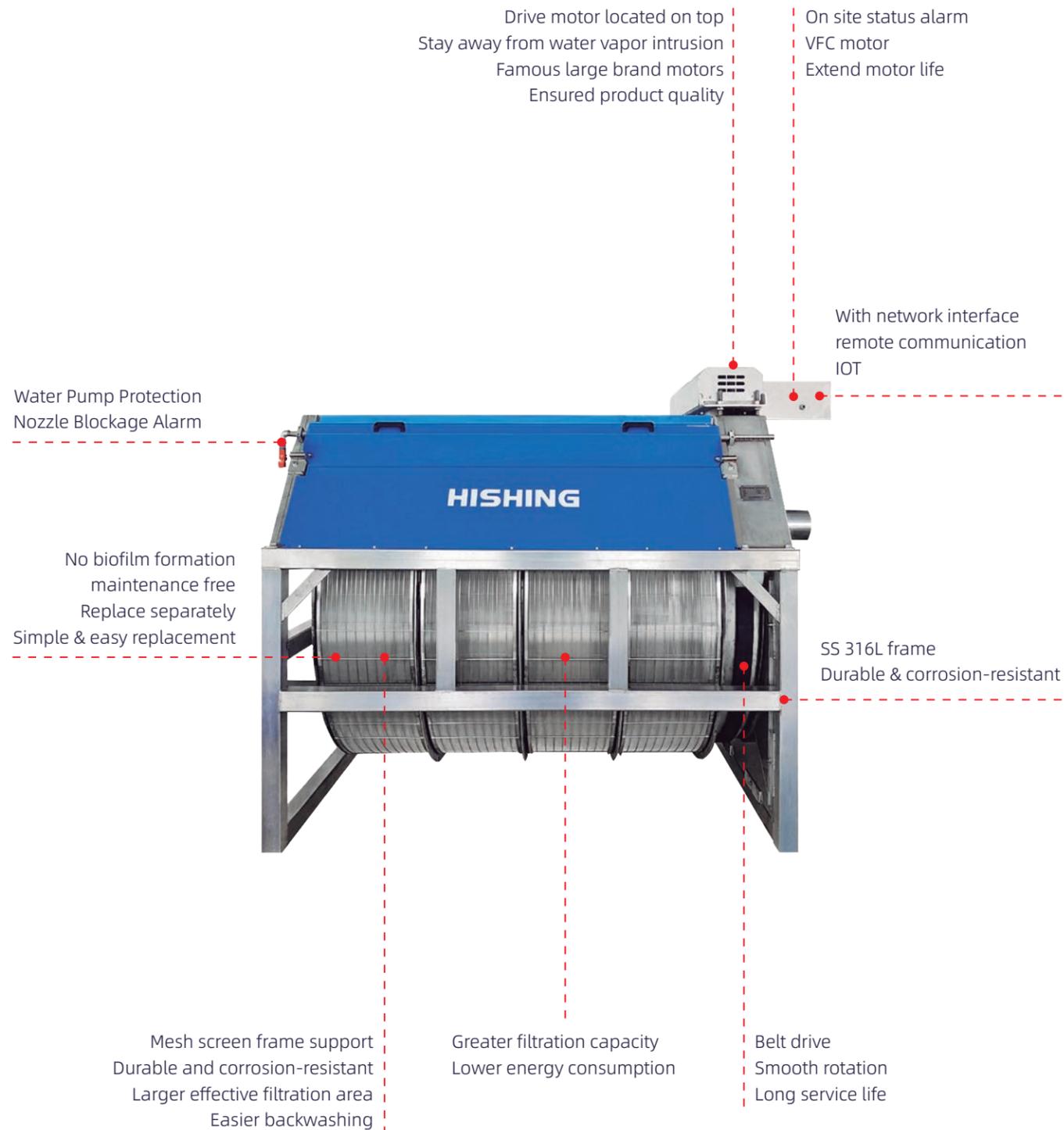
Shrimp Feed R&D Center of CP Dongying

Oct. 2019

CP Group has established a shrimp feed R&D center in Dongying, Shandong. It has a total of 12 sets of feed growth experimental systems for seedling, young shrimp, and adult shrimp stages, as well as a large indoor production RAS experimental system. The center can test up to 1100 kinds of feed formulas throughout the year. The water exchange rate shall not exceed 10% for all aquaculture stage.

TYPE	HS-FF2-AB
Rated Voltage	AC 220V / 50Hz
Rate Power	15 W
Silo Capacity	15 L
Pellet Size	smaller than 3 mm
Feeding Speed(Max.)	2 kgs/min.
Feeders Quantity	160 sets





Mesh screen as the medium, SMART drum type filter removes the tiny solid in water by mechanical physical filtration directly. It can quickly, massively and effectively filter the pellets, feces and organic particles, cooperating with other equipment, it can complete series treatment such as filtration, disinfection, sterilization and oxygen enrichment for the recirculating water.

It composes main body, flushing pump, pipe filter, control box and the level switch, etc. The level switch detects the water level, the motor drives the drum to rotate, the integrated high-pressure back-cleaning unit cleans the mesh screen, sewage is discharged through the sewage pipe, the cleaned mesh cloth rotates circularly for water filtration.

Wide Application

- industrial RAS water treatment
- pretreatment of raw water
- industrial water treatment
- domestic water pretreatment & final treatment
- recycling substances in industrial wastewater, etc.

Super - filtering mesh

- mesh free from maintenance, without biofilm
- suitable for above 25 °C warm sea water

Automatic Water Level Monitoring

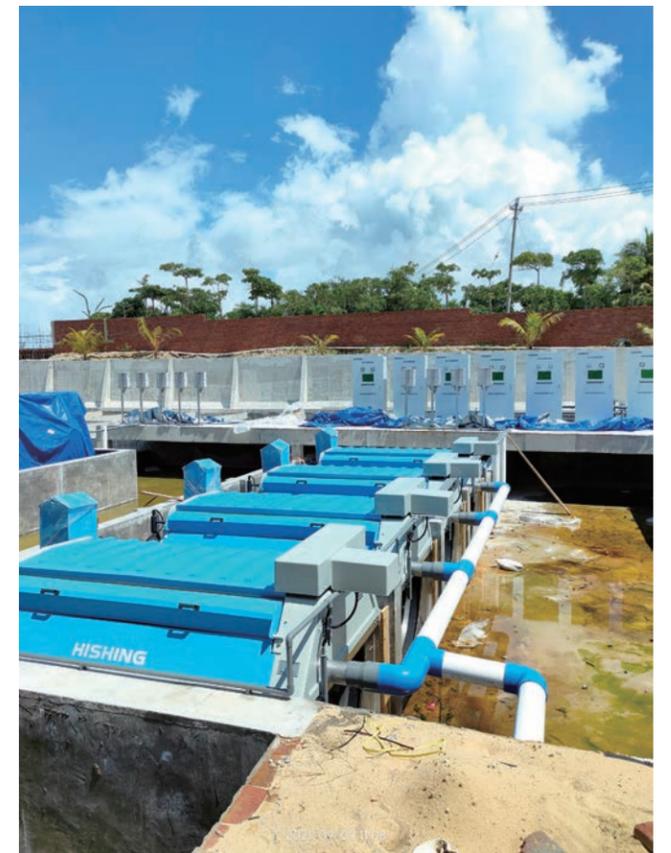
- equipped with automatic water level monitoring device, filter works automatically in the whole process.

Inverter Control

- the system has its on-site state alarmer, controlled by inverter, the motor can be effectively protected and the motor service life can be prolonged.

Backwashing Device

- automatically backwash, with the special sewage groove, it saves water, power and is easy to clean.





MODEL	HS-DF40/2T	HS-DF60/2F HS-DF60/2T	HS-DF80/2F	HS-DF80/4F
Water Treatment Capacity(Max.)*	22 m ³ /h	64 m ³ /h	104 m ³ /h	207 m ³ /h
Standard Mesh Aperture**	75 μm	75 μm	75 μm	75 μm
Main Structure	Frame	Frame Tank	Frame	Frame
Main Frame Material	SS 316L	SS 316L	SS 316L	SS 316L
Flange Ø*** Inlet / Outlet	De75/De75	- De200	-	-
Dimension (L*W*H)***	790*565*640 mm	750*770*1010 mm 750*1100*1010 mm	1115*1030*1525 mm	1560*1030*1525 mm
Working Voltage	380 V	380 V	380 V	380 V
Power Supply	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz
Total Power	0.80 kW	1.00 kW	1.00 kW	1.35 kW
Driven Power	0.25 kW	0.25 kW	0.25 kW	0.25 kW
Backwash Power	0.55 kW	0.75 kW	0.75 kW	1.10 kW
Main Drive Motor Control Mode	VFC	VFC	VFC	VFC
Automatic Backwash	●	●	●	●
Fault Alarm	●	●	●	●
Network Interface	●	●	●	●
Mesh Screen	2 pcs	2 pcs	2 pcs	4 pcs
Mesh Screen Installation	each mesh screen can be replaced in separate, simple and easy			

* The total suspended solids (TSS) of water is 25 mg/l;
 ** Customizable on demand;
 *** For Tank type only;
 ● available.



MODEL	HS-DF80/4T	HS-DF80/6F HS-DF80/6T	HS-DF80/8F	HS-DF120/6F
Water Treatment Capacity(Max.)*	207 m ³ /h	311 m ³ /h	414 m ³ /h	273 m ³ /h
Standard Mesh Aperture**	75 μm	75 μm	75 μm	75 μm
Main Structure	Tank	Frame Tank	Frame	Frame
Main Frame Material	SS 316L	SS 316L	SS 316L	SS 316L
Flange Ø*** Inlet / Outlet	De315/De315	- De400/De400	-	-
Dimension (L*W*H)***	1545*1415*1325 mm	2000*1030*1675 mm 1985*1415*1325 mm	2435*1030*1675 mm	1680*1500*1705 mm
Working Voltage	380 V	380 V	380 V	380 V
Power Supply	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz
Total Power	1.35 kW	1.75 kW	2.45 kW	1.47 kW
Driven Power	0.25 kW	0.25 kW	0.25 kW	0.37 kW
Backwash Power	1.10 kW	1.50 kW	2.20 kW	1.10 kW
Main Drive Motor Control Mode	VFC	VFC	VFC	VFC
Automatic Backwash	●	●	●	●
Fault Alarm	●	●	●	●
Network Interface	●	●	●	●
Mesh Screen	4 pcs	6 pcs	8 pcs	6 pcs
Mesh Screen Installation	each mesh screen can be replaced in separate, simple and easy			

* The total suspended solids (TSS) of water is 25 mg/l;
 ** Customizable on demand;
 *** For Tank type only;
 ● available.



MODEL	HS-DF120/9	HS-DF120/12	HS-DF120/15F HS-DF120/15T	HS-DF120/18
Water Treatment Capacity(Max.)*	410 m ³ /h	546 m ³ /h	683 m ³ /h	820 m ³ /h
Standard Mesh Aperture**	75 μm	75 μm	75 μm	75 μm
Main Structure	Frame	Frame	Frame Tank	Frame
Main Frame Material	SS 316L	SS 316L	SS 316L	SS 316L
Flange Ø*** Inlet / Outlet	-	-	- De600/De600	-
Dimension (L*W*H)***	2120*1500*1855 mm	2560*1500*1855 mm	3000*1500*1880 mm	3465*1500*1880 mm
Working Voltage	380 V	380 V	380 V	380 V
Power Supply	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz
Total Power	1.87 kW	2.57 kW	3.37 kW	3.37 kW
Driven Power	0.37 kW	0.37 kW	0.37 kW	0.37 kW
Backwash Power	1.50 kW	2.55 kW	3.00 kW	3.00 kW
Main Drive Motor Control Mode	VFC	VFC	VFC	VFC
Automatic Backwash	●	●	●	●
Fault Alarm	●	●	●	●
Network Interface	●	●	●	●
Mesh Screen	9 pcs	12 pcs	15 pcs	18 pcs
Mesh Screen Installation	each mesh screen can be replaced in separate, simple and easy			

* The total suspended solids (TSS) of water is 25 mg/l;
 ** Customizable on demand;
 *** For Tank type only;
 ● available.



MODEL	HS-DF160/20	HS-DF160/24	HS-DF160/28	HS-DF160/32
Water Treatment Capacity(Max.)*	1056 m ³ /h	1242 m ³ /h	1449 m ³ /h	1656 m ³ /h
Standard Mesh Aperture**	75 μm	75 μm	75 μm	75 μm
Main Structure	Frame	Frame	Frame	Frame
Main Frame Material	SS 316L	SS 316L	SS 316L	SS 316L
Flange Ø*** Inlet / Outlet	-	-	-	-
Dimension (L*W*H)***	3215*1900*2170 mm	3525*1900*1950 mm	3965*1900*1950 mm	4405*1900*1950 mm
Working Voltage	380 V	380 V	380 V	380 V
Power Supply	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz
Total Power	3.55 kW	3.55 kW	3.55 kW	4.55 kW
Driven Power	0.55 kW	0.55 kW	0.55 kW	0.55 kW
Backwash Power	3.00 kW	3.00 kW	3.00 kW	4.00 kW
Main Drive Motor Control Mode	VFC	VFC	VFC	VFC
Automatic Backwash	●	●	●	●
Fault Alarm	●	●	●	●
Network Interface	●	●	●	●
Mesh Screen	20 pcs	24 pcs	28 pcs	32 pcs
Mesh Screen Installation	each mesh screen can be replaced in separate, simple and easy			

* The total suspended solids (TSS) of water is 25 mg/l;
 ** Customizable on demand;
 *** For Tank type only;
 ● available.



Tail Water Filter

Air Tanks

Air Compressor

Eco - Efficient Solids Separation

- adopting air backwashing, the size of filtered solid particles is smaller, which is easier for further recycling treatment.

Automatic Water Level Pressure Monitoring

- with automatic water level and water pressure monitor, it runs in full auto mode and without staff on duty.

Inverter Control

- frequency inverter control motor, not only energy saving, but also with prolonged motors' service life.

Air Backwash Device

- AUTO backwash, with special winches & sewage troughs, water and power saving with easy cleaning.

Whole New Design

- less floor area, easy installation, larger effective filtering area, and high reliability.

Alarm & Tele - communication

- fault alarm function, with network interface, reserved remote communication, Internet of Things function.

MODEL	HS-CFSRM200
Standard Mesh Aperture*	120 μm
Backwash Media	air knife
Backwash	automatic
Sludge Collection	Auger Pushing Device
Main Frame Material	SS 316L
Dimension (L*W*H)	2600*2000*1200 mm
Driven Power	0.55 kW
Main Drive Motor Control Mode	VFC
Auger Driven Power	0.25 kW
Total Driven Power	0.80 kW
Power Supply	3-phase 4-wire 380V/50Hz
Control Box	with manual switch, manual start available
Control Box IP Grade	IP67
Fault sound and light alarm	•
Network Interface	•
Remote communication & IOT	•

* customizable on demand;
• available.

The solid filter and recycler can removes small solids from the water through mechanical and physical filtration quickly, massively, and effectively.



Air Compressor

Air Tank

Solid Filter & Recycler

Eco - Efficient Solids Separation

- adopting air backwashing, the size of filtered solid particles is smaller, which is easier for further recycling treatment.

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Whole New Design

- less floor area, easy installation, larger effective filtering area, and high reliability.

Alarm & Tele - communication

- fault alarm function, with network interface, reserved remote communication, Internet of Things function.

MODEL	HS-DFSFRM120 /34-214-316L
Standard Mesh Aperture*	120 μm
Backwash Media	Air
Backwashing	automatic
Main Frame Material	SS 316L
Dimension L*W*H	1960*600*600 mm
Driven Power	0.06 kW
Power Supply	3-phase 4-wire 380V/50Hz
Fault Alarm	•

* customizable on demand;
• available;



Protein Skimmers are widely used in RAS, it removes the suspended particles and colloidal substances in water, when Ozone added, it also has the function of decolorization, deodorization and sterilization.

Main Advantages

- PE rotational molding, never leaking
- smooth on both sides, no dirt collection, easy to clean
- efficiently removes small particles & colloidal substances from water
- easy to add ozone, realize decolorization, deodorization & sterilization
- automatically flush foam
- with network interface, it can realize remote communication and Internet of things



PE Rotational Molding Integrated Molding

MODEL	HS-FF315	HS-FF-600	HS-FF-1000	HS-FF-1200	HS-FF-1500
Water Treatment Volume	7m ³ /h	30m ³ /h	100m ³ /h	150m ³ /h	250m ³ /h
Total Power	0.37 kW	0.55 kW	0.75 kW	0.75 kW	1.1 kW
Power Supply	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz	3-phase 4-wire 380V/50Hz
Main Frame Material	PVC	PE	PE	PE	PE
Barrel fabrication	process	rotational integrated molding	rotational integrated molding	rotational integrated molding	rotational integrated molding
Net Volume	about 0.127m ³	about 0.563m ³	about 1.73m ³	about 2.53m ³	about 4m ³
Auto Foam-flush	•	•	•	•	•
Control Box IP Grade	IP67	IP67	IP67	IP67	IP67
Network Interface	•	•	•	•	•
Remote communication & IOT	•	•	•	•	•

• available.

The ultraviolet lamp generates C band wavelength light ,irradiating the water surface passing by, the bacteria in absorb the light, causing its DNA strand breakage, bringing bacterial to death.

Technical Advantages

- long service life of ultraviolet lamp
- sterilization efficiency ≥ 90%
- Anti-dry burning & overheat shutdown protection
- UV lamp grouping control and timing switching
- fault alarm and indication
- remote communication and IOT



Channel Type with Automatic Sleeve Wiping Device



Channel Type

Control Cabinet

Pressure Bearing Type

Control Cabinet with Air Conditioner



Pressure Bearing Type with Automatic Sleeve Wiping Device

		HS-UVW-P/120W 05A	HS-UVW-P/120W 10A	HS-UVW-P/120W 15A	HS-UVW-P/120W 20A	HS-UVW-P/120W 30A	HS-UVW-P/325W 03A	HS-UVW-P/325W 05A	HS-UVW-P/325W 06A	HS-UVW-P/325W 12A
Water Tank Material SS 2507	seawater	•	•	•	•	•	•	-	•	•
Water Tank Material SS 316L	freshwater	•	•	•	•	•	•	•	•	•
Water Tank Dimension L*W*H	mm	1360*300*475	1360*370*545	1335*390*640	1360*470*675	1640*590*775	1795*300*475	1795*300*475	1795*300*475	1795*410*575
Single Lamp Tube Power	W	120	120	120	120	120	325	325	325	325
Lamp Tube Q'TY	pcs	5	10	15	20	30	3	5	6	12
Total Power of Lamp Tube	W	600	1200	1800	2400	3600	975	1625	1950	3900
Ballast & Wiring Harness	set	•	•	•	•	•	•	•	•	•
Lamp Tube Service Life	hours	≥12000	≥12000	≥12000	≥12000	≥12000	≥12000	≥12000	≥12000	≥12000
Sleeve Wiping	manual auto	manual								
Control Cabinet Q'ty	set	1	1	1	1	1	1	1	1	1
Single Control Cabinet	L*W*H (mm)	500*258*600	550*285*1200	550*285*1500	750*430*1800	750*430*1800	500*400*700	750*450*1000	750*450*1000	750*430*1800
Base / Bracket Height of Single Cabinet	mm	500	100	100	100	100	500	600	600	100
Control Cabinet Frame Material		carbon steel								
Cabinet Surface		plastic spray								
Air Conditioner for Control Cabinet	thickness (mm)	-	-	-	-	-	-	-	-	-
Air Conditioner for Control Cabinet	W	-	-	-	-	-	-	-	-	-
Control Cabinet Power Supply		AC220V 50Hz	AC220V 50Hz	AC220V 50Hz	AC220V 50Hz	3N/380V 50Hz	AC220V 50Hz	AC220V 50Hz	AC220V 50Hz	3N/380V 50Hz
Fault Alarm & Indication		•	•	•	•	•	•	•	•	•
UV Lamp Grouping Control		-	•	•	•	•	/	/	/	•
Anti-dry Burning Protection		•	•	•	•	•	•	•	•	•
UV Lamp Working Time Recording		•	•	•	•	•	•	•	•	•
Network Interface		•	•	•	•	•	•	•	•	•
Remote Communication & IOT		•	•	•	•	•	•	•	•	•
Total Power	kW	0.60	1.20	1.80	2.40	3.60	0.98	1.63	1.95	3.90

• This feature is available;

		HS-UVW-P/325W 22A	HS-UVW-P/325W 29A	HS-UVW-P/325W 36A	HS-UVW-P/325W 53A	HS-UVW-P/325W 03P-SW	HS-UVW-P/325W 06P-SW	HS-UVW-P/325W 22P-SW	HS-UVW-P/325W 28P-SW
Water Tank Material SS 2507	seawater	•	•	•	•	•	-	•	•
Water Tank Material SS 316L	freshwater	•	•	•	•	•	•	•	•
Water Tank Dimension L*W*H	mm	1795*590*775	1795*590*775	1795*660*850	1795*740*945	-	-	-	-
Single Lamp Tube Power	W	325	325	325	325	325	325	325	325
Lamp Tube Q'TY	pcs	22	29	36	53	3	6	22	28
Total Power of Lamp Tube	W	7150	9425	11700	17225	975	1950	7150	9100
Ballast & Wiring Harness	set	•	•	•	•	•	•	•	•
Lamp Tube Service Life	hours	≥12000	≥12000	≥12000	≥12000	≥12000	≥12000	≥12000	≥12000
Sleeve Wiping	annual auto	manual	manual	manual	manual	auto	auto	auto	auto
Control Cabinet Q'ty	set	1	1	1	2	1	1	1	1
Single Control Cabinet	L*W*H (mm)	800*500*2000	800*500*2000	1000*500*2000	800*500*2000	500*400*1000	750*450*1000	800x500x2100	800x500x2100
Base / Bracket Height of Single Cabinet	mm	100	100	100	100	600	600	100	100
Control Cabinet Frame Material		carbon steel	carbon steel	carbon steel	carbon steel				
Cabinet Surface		plastic spray	plastic spray	plastic spray	plastic spray				
Air Conditioner for Control Cabinet	thickness (mm)	215	215	215	215	-	-	215	215
Air Conditioner for Control Cabinet	W	610	610	610	610	-	-	610	610
Control Cabinet Power Supply		3N/380V 50Hz	3N/380V 50Hz	3N/380V 50Hz	3N/380V 50Hz	AC220V 50Hz	AC220V 50Hz	3N/380V 50Hz	3N/380V 50Hz
Fault Alarm & Indication		•	•	•	•	•	•	•	•
UV Lamp Grouping Control		•	•	•	•	-	-	•	•
Anti-dry Burning Protection		•	•	•	•	•	•	•	•
UV Lamp Working Time Recording		•	•	•	•	•	•	•	•
Network Interface		•	•	•	•	•	•	•	•
Remote Communication & IOT		•	•	•	•	•	•	•	•
Total Power	kW	7.76	10.04	12.31	18.45	0.98	1.95	7.76	9.71

• This feature is available;

		HS-UVW-C/120W 10A	HS-UVW-C/120W 13A	HS-UVW-C/120W 15A	HS-UVW-C/120W 20A	HS-UVW-C/120W 25A	HS-UVW-C/120W 30A
Water Tank Material		SS 316L					
Water Tank Dimension L*W*H	mm	935*295*1750	935*465*1750	935*465*1750	935*585*1750	1225*585*1750	1355*585*1750
Single Lamp Tube Power	W	120	120	120	120	120	120
Lamp Tube Q'TY	pcs	10	13	15	20	25	30
Total Power of Lamp Tube	W	1200	1560	1800	2400	3000	3600
Lamp Tube Service Life	hour	≥12000	≥12000	≥12000	≥12000	≥12000	≥12000
Sleeve Wiping	Manual Auto	manual	manual	manual	manual	manual	manual
Control Cabinet Q'ty	set	1	1	1	1	1	1
Single Control Cabinet	L*W*H (mm)	500*285*800	500*258*1000	500*258*1000	750*430*1800	850*340*1000	750*430*1800
Base / Bracket Height of Single Cabinet	mm	900	600	600	100	800	100
Control Cabinet Frame Material		carbon steel					
Cabinet Surface		plastic spray					
Air Conditioner for Control Cabinet	thickness (mm)	-	-	-	-	-	-
Air Conditioner Power / Single Set	W	-	-	-	-	-	-
Control Cabinet Power Supply		AC220V/50Hz	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz	3N/380V/50Hz
Fault Alarm & Indication		•	•	•	•	•	•
UV Lamp Grouping Control		•	•	•	•	•	•
Anti-dry Burning Protection		•	•	•	•	•	•
UV Lamp Working Time Recording		•	•	•	•	•	•
Network Interface		•	•	•	•	•	•
Remote Communication & IOT		•	•	•	•	•	•
Total Power	kW	1.20	1.56	1.80	2.40	3.00	3.60

• This feature is available;

		HS-UVW-C/325W 13A	HS-UVW-C/120W 20A-SW	HS-UVW-C/325W 17A-SW	HS-UVW-C/325W 23A-SW	HS-UVW-C/325W 31A-SW
Water Tank Material		SS 316L	SS 316L	SS 316L	SS 316L	SS 304
Water Tank Dimension L*W*H	mm	935*295*1750	-	-	-	-
Single Lamp Tube Power	W	325	120	325	325	325
Lamp Tube Q'TY	pcs	13	20	17	23	31
Total Power of Lamp Tube	W	4225	2400	5525	7475	10075
Lamp Tube Service Life	hour	≥12000	≥12000	≥12000	≥12000	≥12000
Sleeve Wiping	manual auto	Manual	auto	auto	auto	auto
Control Cabinet Q'ty	set	1	1	1	1	1
Single Control Cabinet	L*W*H (mm)	750*430*1800	800x2100x500	800x2100x500	1000x2100x500	1000x2100x500
Base / Bracket Height of Single Cabinet	mm	100				
Control Cabinet Frame Material		carbon steel	carbon steel	carbon steel	carbon steel	carbon steel
Cabinet Surface		plastic spray	plastic spray	plastic spray	plastic spray	plastic spray
Air Conditioner for Control Cabinet	thickness (mm)	-	-	-	-	-
Air Conditioner Power / Single Set	W	-	-	-	-	-
Control Cabinet Power Supply		3N/380V/50Hz	3N/380V/50Hz	3N/380V/50Hz	3N/380V/50Hz	3N/380V/50Hz
Fault Alarm & Indication		•	•	•	•	•
UV Lamp Grouping Control		•	•	•	•	•
Anti-dry Burning Protection		•	•	•	•	•
UV Lamp Working Time Recording		•	•	•	•	•
Network Interface		•	•	•	•	•
Remote Communication & IOT		•	•	•	•	•
Total Power	kW	4.23	2.40	5.53	7.48	10.08

• This feature is available;

Main Advantages

- exquisite structure, effectively meet aquaculture requirements
- low operation cost

Main Technical Parameters

- cone Body Material: Food grade FRP / SS316L
- Max. environment temperature: 40°C
- Max. working water temperature: 40°C
- work pressure: 0.25 MPa



MODEL	HS-OC-300*1050-De63-FRP	HS-OC-600*1730-De90-FRP	HS-OC-860*2130-De110-FRP	HS-OC-1200*2700-De160-FRP	HS-OC-300*1050-De63-316L	HS-OC-860*2070-De110-316L
Cone Material	FRP	FRP	FRP	FRP	SS 316L	SS 316L
Diameter in mm	300	600	860	1150	300	860
Height in mm	1050	1730	2130	2700	1050	2070
Working Pressure in MPa	0.20	0.20	0.20	0.20	0.20	0.20
Test Pressure in MPa (Max.)	0.40	0.40	0.40	0.40	0.40	0.40
Designed Flow Rate (Max.)	10 m ³ /h	35 m ³ /h	60 m ³ /h	110 m ³ /h	10 m ³ /h	60 m ³ /h

The oxygen distribution box provides oxygen supply and control for the recirculating aquaculture system. When the system is powered off or lack of oxygen, the emergency oxygen supply is turned on automatically.

Advantages

- transparent or open design, easy to observe
- with flow meter, easy for production statistical management
- compact structure, function integration



Open Type Explosion-Proof Oxygen Distribution Box



Transparent Type Explosion-Proof Oxygen Distribution Box

MODEL	HS-OBD16-2*12	HS-OBD16-1*12
Box Body	with glass observation window or open type	with glass observation window or open type
Width*Height*Thickness	542*652*200 mm	434*652*200 mm
Inlet Pipe Quantity	1	1
Inlet Pipe Material	polyurethane (PU)	polyurethane (PU)
Inlet Pipe Outer Diameter	φ16 mm	φ16 mm
Inlet Pipe inner Diameter	φ12 mm	φ12 mm
Outlet Pipe Quantity	2	1
Outlet Pipe Material	polyurethane (PU)	polyurethane (PU)
Outlet Pipe Outer Diameter	φ16 mm	φ16 mm
Outlet Pipe inner Diameter	φ12 mm	φ12 mm
Pressure Transmitter	explosion proof	explosion proof
Solenoid Valve	explosion proof	explosion proof
Pressure Gage	oxygen specific	oxygen specific
Normal Oxygen Supply by Oxygen & Water Mixing	•	•
Emergency Assisted Oxygenation*	•	-
Emergency Oxygenation**	•	-

* When there is a liquid oxygen source on site, emergency oxygen replenishment can be turned on and normal oxygen supply can be turned off in case of water interruption, power outage, or equipment abnormality;
 **If the dissolved oxygen value is too low, turn on emergency oxygenation;
 • This function is available

Product Advantages

- Exquisite structure
- Low operating costs
- High quality PVC-U material
- Non-toxic
- Corrosion resistance
- Anti aging
- Long service life



Variable Diameter Pipeline Aerator

MODEL	HS-OD-De500*2250-De400	HS-OD-De500*2250-De315	HS-VA-De200*1900-De90-180°	HS-RPO-De315*1420-PVC
Form / Type	pipe type	pipe type	vertical type	variable diameter pipe
Main Body Material	-	-	PVC	PVC
Process	-	-	-	-
Diameter	500 mm	500 mm	200 mm	315 mm
Length	2250 mm	2250 mm	1900 mm	1420 mm
Rated Power	0.75 kW	0.55 kW	0.37 kW	-
Inlet Pipe Diameter	400 mm	315 mm	90 mm	140 mm
Outer Pipe Diameter	400 mm	315 mm	90 mm	140 mm

Following the principle of partial pressure, through the full contact of gas water convection, it can remove off the CO₂ in the aquaculture water.



MODEL	HS-CDS-2350*885*1200-1-304	HS-CDS-2350*885*1200-1-316L	HS-CDS-2950*960*1450-1-316L	HS-CDS-2000*2000*800-1-304
Structure	Tank Type	Tank Type	Tank Type	Tank Type
Dimension in L*W*H	2350*885*1200 mm	2350*885*1200 mm	2950*960*1450 mm	2000*2000*800 mm
Frame Material	SS 304	SS 316	SS 316	SS 304
Side Panel Material	polypropylene (PP)	polypropylene (PP)	polypropylene (PP)	polypropylene (PP)
PE Solid Grid Degassing Filler	1.25 m ³	1.25 m ³	2.00 m ³	2.00 m ³
Amount of Water Passed through	≥ m ³ /h	≥ m ³ /h	≥ m ³ /h	≥ m ³ /h
Gas Water Ratio	> 5:1	> 5:1	> 5:1	> 5:1
Degassing Blower Q'ty	1 set	1 set	1 set	1 set
Degassing Blower Power Supply	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz
Degassing Blower Blowing Rate(Max.)	1405 m ³ /h	1405 m ³ /h	1405 m ³ /h	1405 m ³ /h
Degassing Blower Wind Pressure (Max.)	488 Pa	488 Pa	488 Pa	488 Pa
Degassing Blower Power	255 W	255 W	255 W	255 W



Feature

- Transferable objects: fish, shrimp, etc
- Transfer capacity: 20~345m³/h fish/shrimp water mixture
- No contact damage to fish/shrimp during transfer
- Convenient disassembly and assembly
- Transparent PVC steel wire hose, visible to fish and shrimp
- IP67 Control Cabinet
- Variable frequency control
- World-class brand electrical components

MODEL	HS-FP110-15/316L	HS-FP250-55/316L	HS-FP350-75/316L
Flow Rate of Suction Pipe	20 ~ 50 m ³ /h	60 ~ 145 m ³ /h	345 m ³ /h
Transferable Fish Size	fish body cross section height < 80 mm	fish body cross section height < 200 mm	fish body cross section height < 240 mm
Transferable Shrimp Size	shrimp length < 150 mm	shrimp length < 200 mm	shrimp length < 240 mm
Suction Pipe Diameter	110 mm	250 mm	350 mm
Discharge Pipe Diameter	160 mm	350 mm	350 mm
Material of Components in Contact with Water	316 L	316 L	316 L
Dimension L*W*H *	1650*500*1150 mm	2600*700*1600 mm	3400*700*1700 mm
Motor Power	15 kW	55 kW	55 kW
Power Supplu	3-phase 4-wire/380V/50Hz	3-phase 4-wire/380V/50Hz	3-phase 4-wire/380V/50Hz
Anti-suction Bottom Device	•	•	•
Motor Control Mode	VFC, enabling remote control	VFC, enabling remote control	VFC, enabling remote control
Controll Box Functions	start/stop, speed control, emergency stop	start/stop, speed control, emergency stop	start/stop, speed control, emergency stop

* Excluding hose size

Technical Data

- outer dimension: 200*300*180mm double doors
- ABS, transparent cover with pendants
- installation : wall-hanging
- rated voltage: 220 V
- rated power: 20 W

Major Function

- real time online monitoring of water quality
- water quality historical data and curve query
- water quality alarm parameter setting
- abnormal alarm and alarm history query
- remote communication and IOT functions



MODEL	HS-AQS-2M	HS-AQS-3M	HS-AQS-3M1	HS-AQS-3M2	HS-AQS-4M	HS-AQS-4M1	HS-AQS-5M
Optical DO Sensor (DO & Temperature)	•	•	•	•	•	•	•
PH Sensor (PH & Temperature)	-	•	-	-	•	•	•
ORP Sensor (ORP & Temperature)	-	-	-	•	•	-	•
Conductivity Sensor (Conductivity & Temperature)	-	-	•	-	-	•	•
Water Quality Instrument*	•	•	•	•	•	•	•
Other**	•	•	•	•	•	•	•
Software	•	•	•	•	•	•	•
DO Range	0 - 20 mg/L	0 - 20 mg/L	0 - 20 mg/L	0 - 20 mg/L	0 - 20 mg/L	0 - 20 mg/L	0 - 20 mg/L
Temperature Range	0 - 50 °C	0 - 50 °C	0 - 50 °C	0 - 50 °C	0 - 50 °C	0 - 50 °C	0 - 50 °C
PH Range	-	2.00 -14.00	-	-	0.00 -14.00	2.00 -14.00	0.00 -14.00
ORP Range	-	-	-	±1000 mV	±1000 mV	-	±1000 mV
Conductivity Range	-	-	0 - 200 ms/cm	-	-	0 - 200 ms/cm	0 -200 ms/cm

* Including touch screen, communication module, switch power supply, air switch, sound and light alarm and other electrical components

** Connect wiring harness and install pipeline & fittings



Main Function

- with imported optical DO sensor, reliable, accurate and fast. 95% of the target value can be achieved in 60 seconds.
- IOT automatic cloud storage function, built-in wireless Internet of things cloud module, the measurement data can be synchronously stored in the cloud server.
- free phone application and computer client software, easy to view real-time data, historical data, historical curve and download.
- with independent QR code, users can add, bind and manage their own devices by themselves.
- touch screen control UI, the history curve can be viewed on the instrument.
- built in lithium battery, more than 24 H measuring.

MODEL	HS-02GI
DO Range	0 - 20 mg/L
DO Accuracy	0.1 mg/L
DO Resolution Ratio	0.01 mg/L
Temperature Range	- 5°C ~ 50°C
Temperature Accuracy	± 0.1 °C
Temperature Resolution Ratio	0.01 °C
Response T90<45s	T95<60s@25°C
Screen	3.5" TFT LCD Industrial resistance touch screen
Resolution Ratio	320*240 px
Mobile APP	•
Built-in Battery	lithium battery continuous working > 24 h
External Power Supply	with power adapter
Portable Suitcase L*W*H	385*358*175 mm
Portable Suitcase Net Weight	2.20 kg

- This feature is available;

Polyethylene (PE) One-time Forming Tanks

- Polyethylene (PE) has high stiffness, excellent low-temperature impact strength, and excellent environmental stress cracking resistance, suitable for harsh environments
- economical and long service life
- smoothy inner and outer surface, easy to clean
- lightweight, easy to install and reposition quickly
- reliable barrel wall minimizes possible deformation
- open-top, nested to reduces transportation costs
- food grade materials, safe and non-toxic to aquatic organisms and animals
- contains anti-UV inhibitors for outdoor use



HS-FT1050



HS-FT2090

MODEL	HS-PE-630	HS-FT1050	HS-FT2090	HS-FT2060	HS-PE-3000	HS-PP2000	HS-PP3000	HS-PP4000	HS-PP4500	HS-PP5000	HS-PP6100
Material	PE	PE	PE	PE	PE	PP	PP	PP	PP	PP	PP
Process	one-time molding	one-time molding	one-time molding	one-time molding	one-time molding	welding	welding	welding	welding	welding	welding
Outer Diameter	630 mm	1050 mm	2090 mm	2060 mm	3000 mm	2000 mm	3000 mm	4000 mm	4500 mm	5000 mm	6100 mm
Upper Inner Diameter	572 mm	980 mm	1928 mm	1960 mm	2857 mm	1988 mm	2980 mm	3980 mm	4480 mm	4800 mm	6070 mm
Lower Inner Diameter	527 mm	848 mm	1767 mm	1750 mm	2764 mm	1988 mm	2980 mm	3980 mm	4480 mm	4800 mm	6070 mm
Thickness	4 mm	6 mm	8 mm	8 mm	12 mm	6 mm	10 mm	10 mm	10 mm	10 mm	15 mm
Height	470 mm	970 mm	1140 mm	1640 mm	1330 mm	1380 mm	1200 mm	1500 mm	1200 mm	1600 mm	2000 mm
Effective Volume	0.08 m ³	0.5 m ³	2.5 m ³	3.5 m ³	6.5 m ³	3 m ³	7 m ³	12.5 m ³	16 m ³	27.3 m ³	50 m ³
Water Outlet Connection	De32	De50	De90	De90	De90	-	-	-	-	-	-
Note	without base	without base	without base	without base	without base	*	*	*	*	*	*

* Can be welded and installed on-site, and the size can be customized

Polypropylene (PP) Welded Tanks

- durable
- lightweight and high-strength
- energy saving and insulation
- excellent sealing performance
- healthy, green and environmentally friendly
- good sound insulation effect
- corrosion resistance
- good dimensional stability
- good insulation performance



- durable
- lightweight and high-strength
- energy saving and insulation
- excellent sealing performance
- significant health, green environmental protection
- energy-saving effects
- good sound insulation effect
- corrosion resistance
- good dimensional stability
- good weather resistance
- good insulation performance
- good shock absorption performance



NAME	Tank	Tank	Trough
MODE	HS-FT250-GRP	HS-FT500-GRP	HS-FRP-4000
Material	FRP	FRP	FRP
Process	fabrication	fabrication	fabrication
Length	753 mm	1000 mm	3750 mm
Width	760 mm	1000 mm	700 mm
Height	1150 mm	1150 mm	510 mm
Effective Volume	0.25 m ³	0.5 m ³	1.08 m ³
Cultural Water	0.2 m ³	0.37 m ³	0.85 m ³
Observing Window	•	•	-
Note	-	-	-

* With observation window, including tank cover, liquid level control device, and drainage components, equipped with flow meter



Strip Incubation Trough

Vertical flow settler is widely used in RAS, located at the edge of tanks, to remove large particles from water in the first time, reducing the load on subsequent water treatment systems.

Each tank accompanies with an independent vertical flow settler, customized design for the installation position, positioning height, etc. Generally, the designed water flow is 5-20% of the recirculating water volume of each tank.

- PE material, one-time molding or fiberglass material
- PE material, smooth inner wall, no dirt accumulation
- by timely manual unplugging or automatic sewage discharge, to reduce the enrichment of ammonia nitrogen & sulfite resulted by the accumulation of aquaculture pollutants.



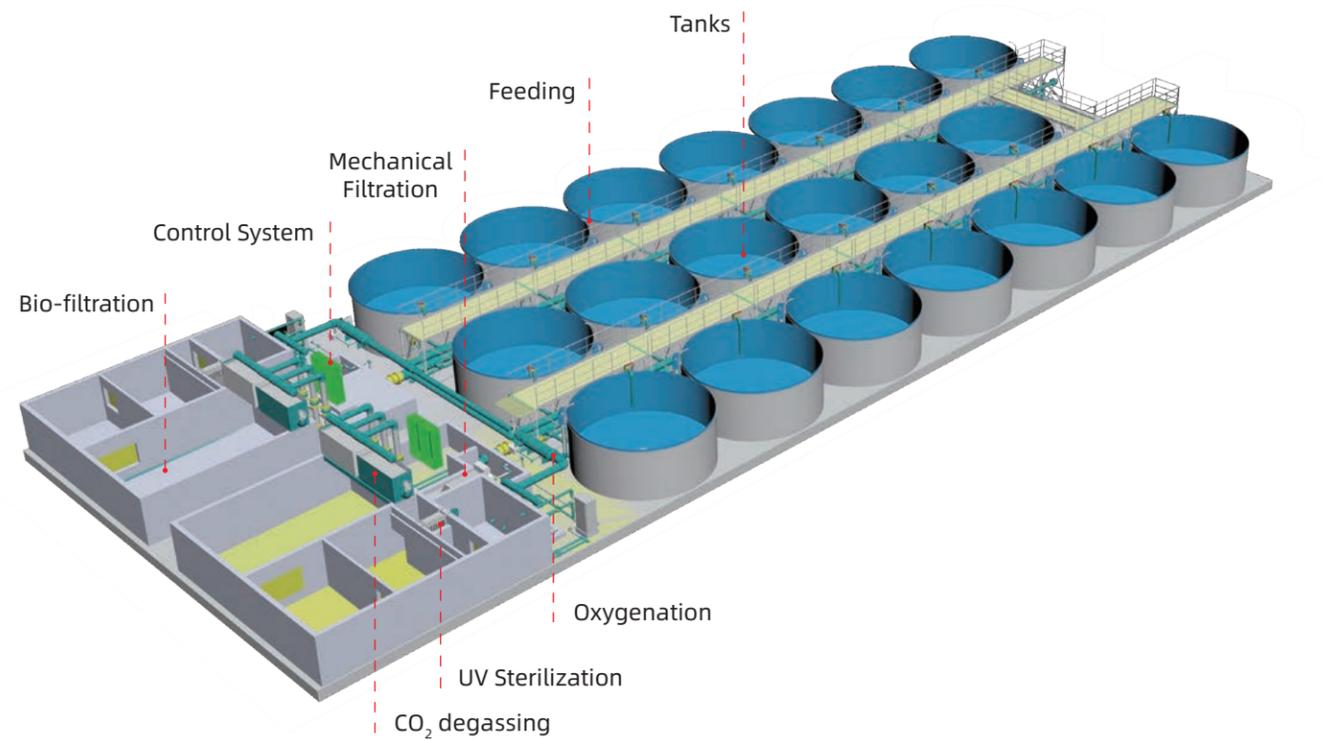
HS-RDS-650-PE

MODEL	HS-RDS-300-GRP	HS-RDS-550-GRP	HS-RDS-650-PE	HS-RDS-750-GRP	HS-RDS-850-PE
Main Body Material	FRP	FRP	PE	FRP	PE
Process	fabrication	fabrication	one-time molding	fabrication	one-time molding
Diameter	300 mm	550 mm	650 mm	750 mm	850 mm
Height	1150 mm	1350 mm	1200 mm	1550 mm	1500 mm
Inlet Port Diameter	-	-	63 mm	-	90 mm
Outlet Port Diameter	-	-	75 mm	-	90 mm
Sewage Outlet Diameter	-	-	63 mm	-	63 mm
Base Support	On demand customization				

The entire system adopts a modular design, including

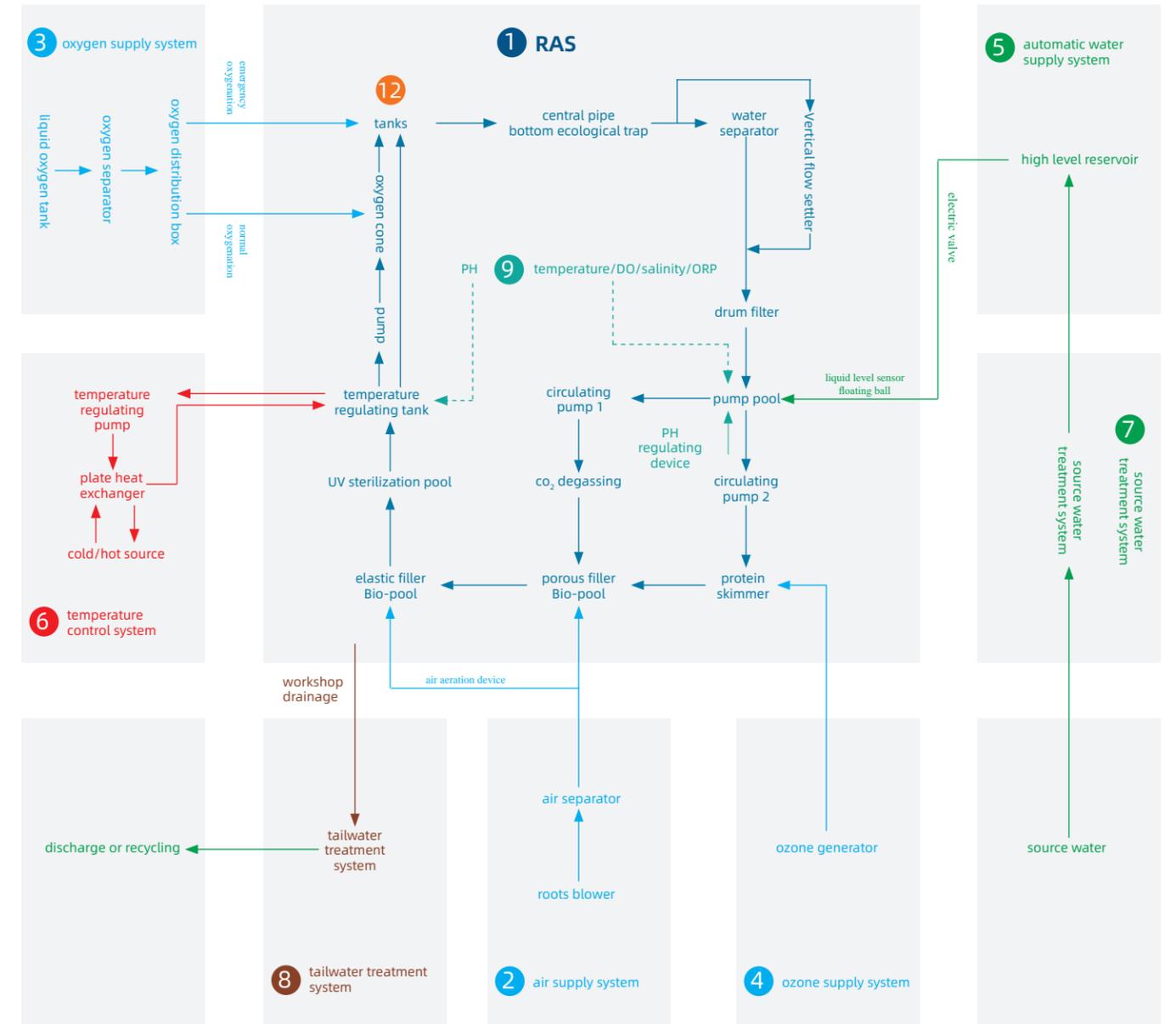
- source water treatment system module
- recirculating water treatment system module
- tail water treatment system module
- air supply and oxygenation system module
- ultraviolet ozone disinfection system module
- temperature regulation system module
- feeding system module

These modules can be combination according to different needs. With Internet of Things interface, each module can be monitored and controlled through a central control system.



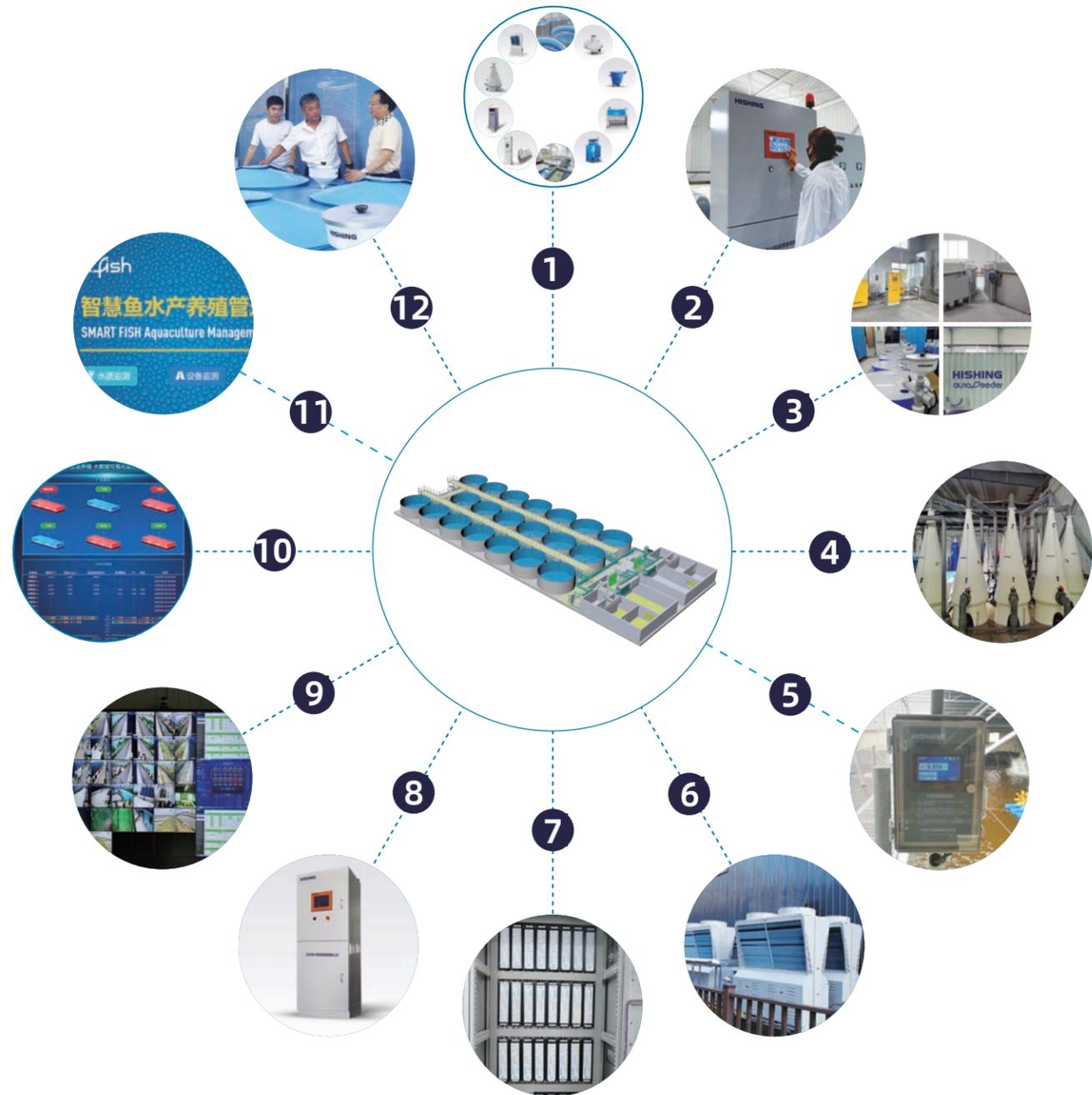
species

Atlantic Salmon		Yellowtail	
Rainbow Trout		Bass	
Grouper		Tilapia	
Sturgeon		Flatfish	
Miniatus Grouper		Penaeus Vannamei	



- 1 RAS
- 2 air supply system
- 3 oxygen supply system
- 4 ozone supply system
- 5 Auto water supply system
- 6 temperature control
- 7 source water treatment system
- 8 tailwater treatment system
- 9 online water quality system
- 10 automatic control system
- 11 IoT system
- 12 smart feeding system

Smart aquaculture factory can effectively improve the ecological aquaculture environment, significantly improve the production and operation efficiency, reduce aquaculture costs, shorten aquaculture cycles, completely transform the concepts and organizational structure of producers and consumers, and achieve a modern aquaculture comprehensive ecosystem with sustainable development as the goal.



- | | | |
|----------------------------------|--------------------------------|------------------------------------|
| 1. Recirculating Water Treatment | 5. Water Quality online System | 9. Video Surveillance System |
| 2. SMART Control Cabinet | 6. Temperature Control System | 10. IoT Monitoring System |
| 3. SMART Feeding System | 7. Lighting Control System | 11. Aquaculture Management System |
| 4. Oxygen / Air Supply System | 8. Power Supply Control System | 12. Expert Remote Diagnosis System |

Yadong Salmon Health Cultivation Project

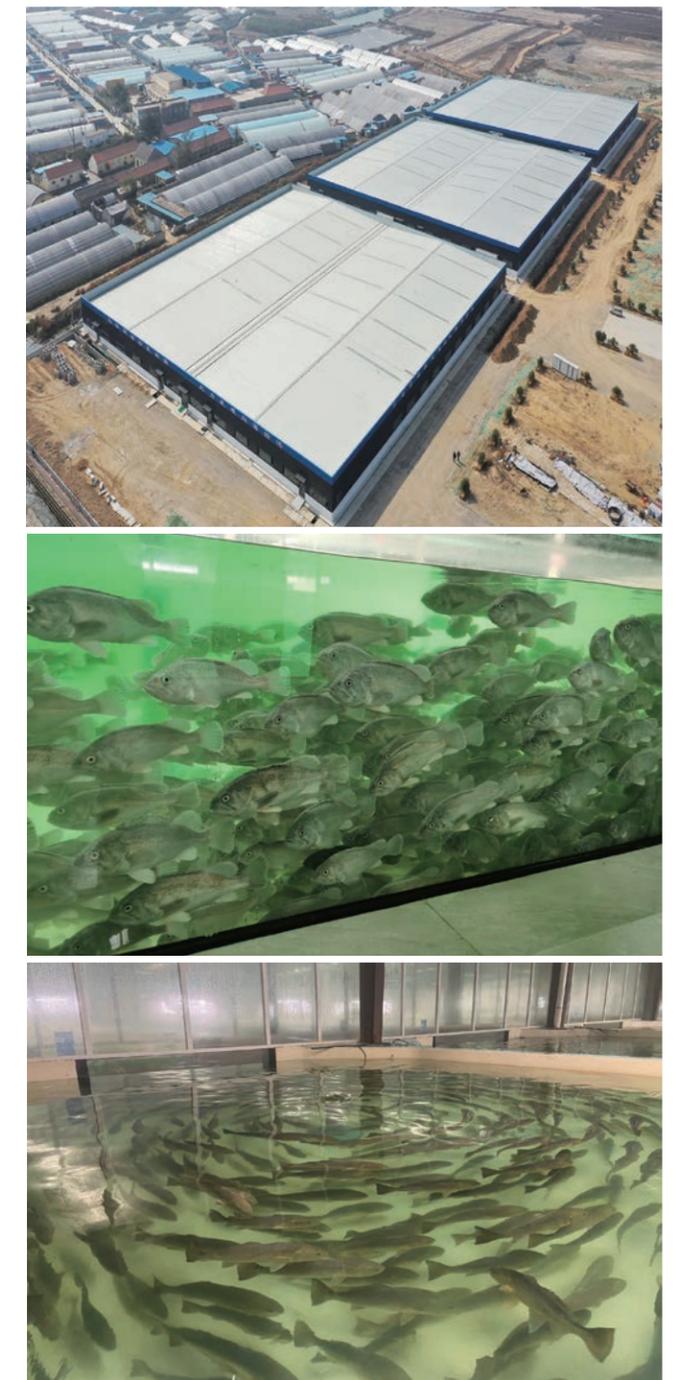
Species: Yadong Salmon

Five stages: egg incubation, 2g,10g&100g fry cultivation, cultivation to 1 kg commercial salmon. It can hatch 8 million eggs, cultivate 1.25-1.5 million fingerling, 400000 commercial Yadong Salmon.



Modern Aquaculture Base, Rizhao, China

Species: grouper, Chinese shrimp & crab, etc
The National Seawater Fish Industry Technology System Demonstration Base. HISHING provides 36 sets of drum filter, protein skimmer, UV sterilizers, and aquaculture systems. It produces over 5 million high-quality fry and over 200 million shrimp fry annually.



Dayangshan Demonstration Base

Species: Penaeus Vannamei;

There are 18 workshops, each with 4 sets of RAS units (5 RAS units in NO.18), totaling 73 RAS units.



CP Shrimp Feed R&D Center, Dongying

Species: various fish and shrimp

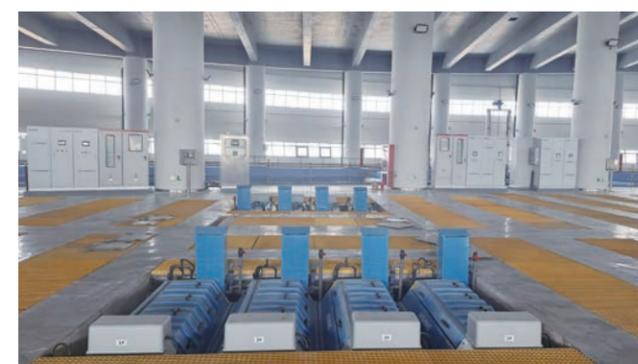
It includes 13 sets of different RAS, including 12 sets of small RAS, 1 set of large production experiment RAS, with online monitoring system for water quality (DO, salinity, temperature and pH).



Chinese Sturgeon Nature Reserve Base

Species: Chinese sturgeon

The water treatment system of the entire project includes drum filters, UV sterilizers, biofiltration systems, and oxygenation systems.



Modern Digital Aquaculture Zone, Nanxun

Species: California Bass

It includes 10 sets of 160m³ California sea bass RAS, 16 sets of 185m³ RAS fry system and one set of artemia hatching system.



Mini - RAS for Fry or Scientific Research

- mechanical fine filtration
- CO₂ removal
- ammonia nitrogen removal
- UV sterilization
- oxygen treatment
- temperature control

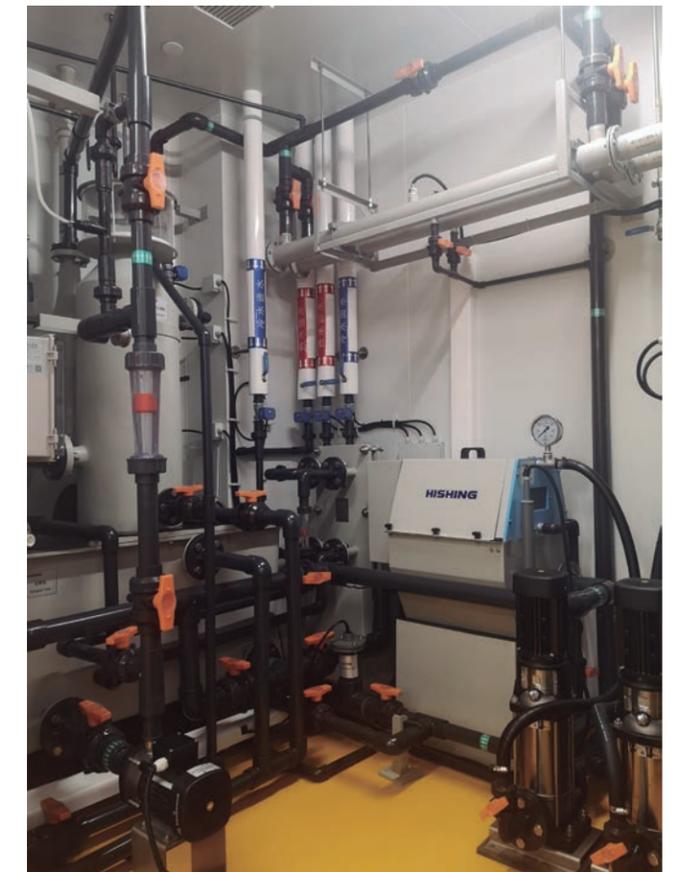


Aquatic Animal Platform Experimental System

- cultivation system of developmental gene mutants in amphioxus
- experimental system for zebrafish
- algae and small fish aquaculture systems
- Immune evaluation system
- vaccine evaluation and breeding system
- low temperature temporary aquaculture system
- ecological temporary aquaculture system
- marine parasite aquaculture system
- freshwater parasite aquaculture system
- shrimp and Crab virus experimental system
- seawater fish disease experimental system
- freshwater fish disease experimental system
- seawater bacteria experimental system
- freshwater bacteria experimental system

The system adopts intelligent control management system, via on-site, control center, remote internet, or handheld terminals, it monitors the system operation status and fault information in real-time. The system operation status can be modified or controlled at any time.

- dissolved oxygen
- salinity
- PH
- oxygen saturation
- water temperature
- ORP, etc



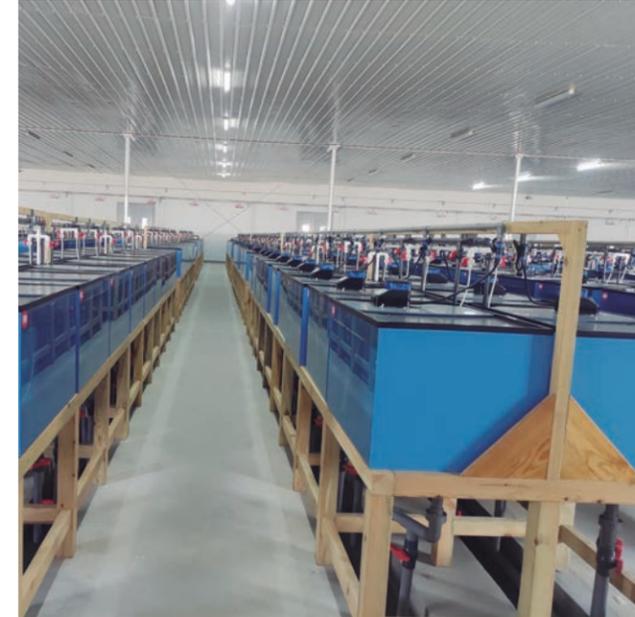
It includes water treatment system, water supply & drainage system, power supply system, air supply system and oxygen supply system, the water system includes:

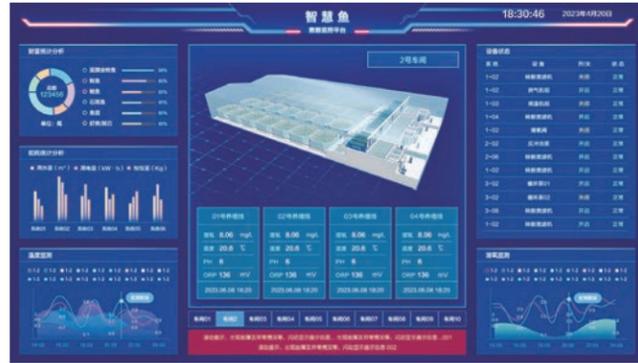
- parent fish temporary culture system
- parental induction cultivation system
- the two stages fry rearing system
- seedling experiment system

All above systems support the functions of at-site, control center, Internet remote viewing, operation & alarm.

Real-time Monitoring & Operating

It can real-time monitor, modify or control the system running status and faults information via the site, control center, remote internet or handheld terminal.





IoT Cloud Box APP & Smart Fish APP



SMART FISH aquaculture management system ensures users good quality and best efficiency with improved profitability. It not only can real time monitor the system running status and faults information through the site, control center, remote internet or handheld terminal, but also can modify or control the equipment running status at any time.

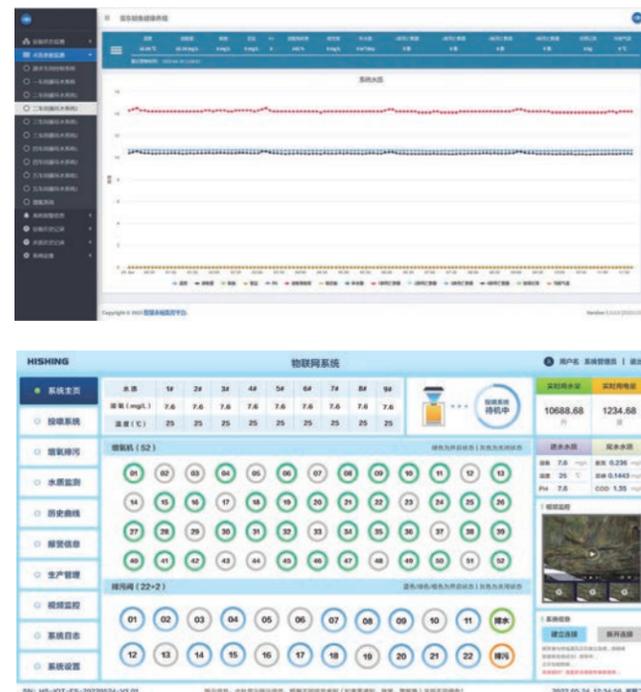
Real Time Data

Fishsense real time monitors all main water quality parameters, includes

- temperature
- dissolved oxygen
- oxygen saturation
- PH
- ORP
- salinity
- conductivity
- others as request

Historical Data

All water quality parameters are displayed in line or bar graph, with max.& min. values auto-marked, it is convenient to know the water quality changes in time, users can make further analysis on historical data.



The system adopts embedded design, embedded TCP / UDP protocol, and powerful microcomputer processor chip with built-in hardware watchdog. It has stable performance, compact appearance and high cost performance, which can meet the requirements of various remote data transmission.





* Without egg line

The AI visual egg counter can be used in conjunction with various egg conveyors (such as pole conveyors, belt conveyors, etc.). It adopts artificial intelligence vision and AI edge computing technology to complete the counting by analyzing and comparing the size and color of egg image data. External factors such as the type of egg conveyor, the size and color of eggs, and the direction of eggs on the conveyor will not affect the accuracy of the egg counter.

The egg counter is equipped with a 10.1-inch LCD touch screen, convenient for users to observe and operate. The counter is equipped with an IoT communication system, which can transmit detection data in real-time to the user end.

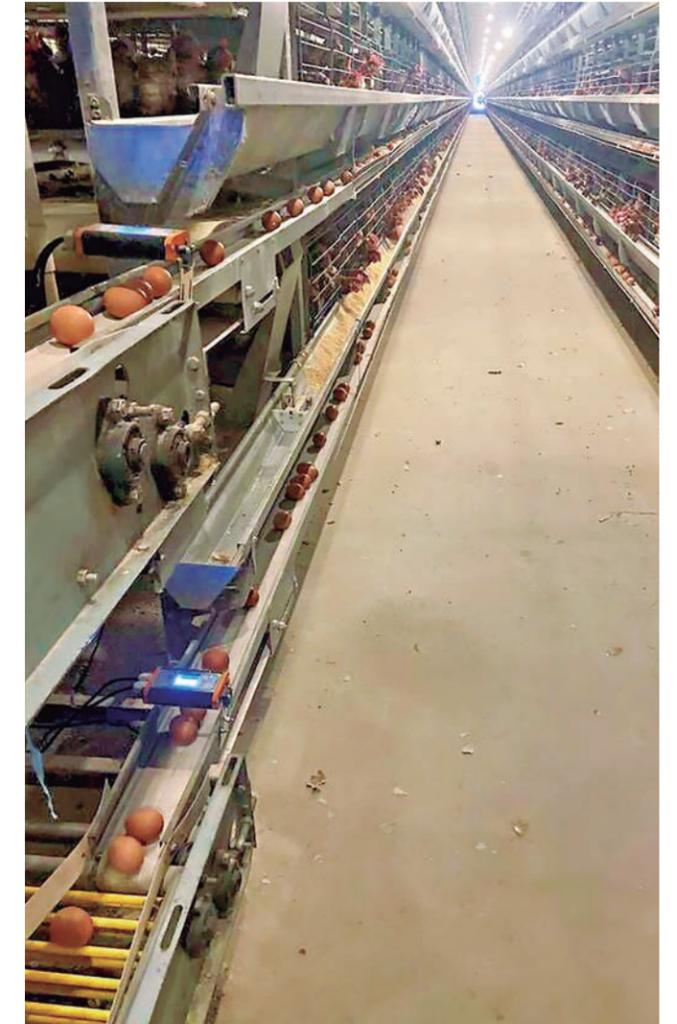
- 10.1-inch touch screen human-computer interaction
- testing accuracy: 99.99%
- provide 20 optional storage numbers
- for egg conveyor with a width of 50-80 cm
- for egg conveyor speed of 0-8 meters/min.
- easy installation
- easy operation
- historical data record storage, convenient and fast for viewing
- equipped with IoT communication interface and optional IoT cloud box
- mobile and web users can remotely view real-time data



The laser egg counting system adopts the infrared laser sensor array to accurately identify and measure the quantity of eggs, unaffected by egg color, size, direction, and environmental lighting, with a recognition rate of over 99.7%.

One system can count the number of eggs up to 100 egg lines, record the real-time egg production of each line, and form a historical record. The system adopts patented technology, eliminates industry pain points, delays sensor fouling, simplifies cleaning and maintenance, and can be quickly installed and combined.

- sensor counting accuracy: > 99.7%
- sensor installation height: 75~85 mm
- sensor scanning width: 100mm
- conveyor speed: 0~8 meters/minute
- single sensor daily egg production: up to 65535
- total measurement quantity: 99999999 pieces
- easy and convenient cleaning and maintenance
- quick installation and assembly
- can be remote communication and IoT functions
- optional wireless IoT module and mobile APP





HS5208

HS5208 environmental controller controllable

- 5 sets of fans
- 1 set of cooling water pump (wet curtain water pump)
- 1 set of alarm relays
- 1 set of automatic opening and closing of air intake windows and curtains
- total of 8 sets of loads

Equipped with two sets of 0 -10V analog output interfaces for controlling speed regulating fans and trench fans, and 2 sets of digital input interfaces for water and material metering IoT interfaces. Through the IoT cloud box (optional), remote real-time monitoring of the indoor environment can be achieved through a mobile app, making aquaculture safer.

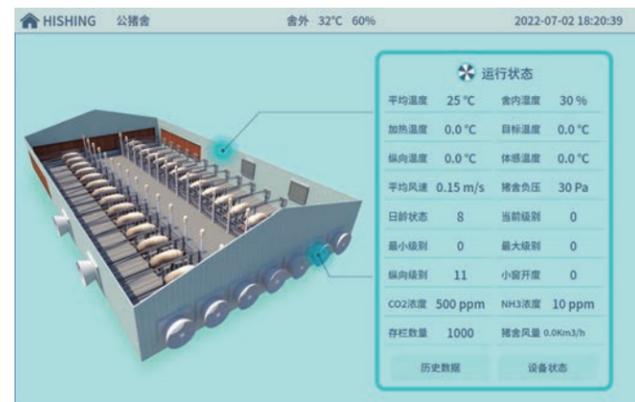
- 4 + 2 digit LED digital tube display
- 8 sets of working relays and one set of alarm relays
- supports four temperature and one humidity sensors
- supports 2 digital inputs and 2 analog outputs
- support password management
- support remote operation and maintenance of the Internet of Things
- optional mobile APP for remote monitoring



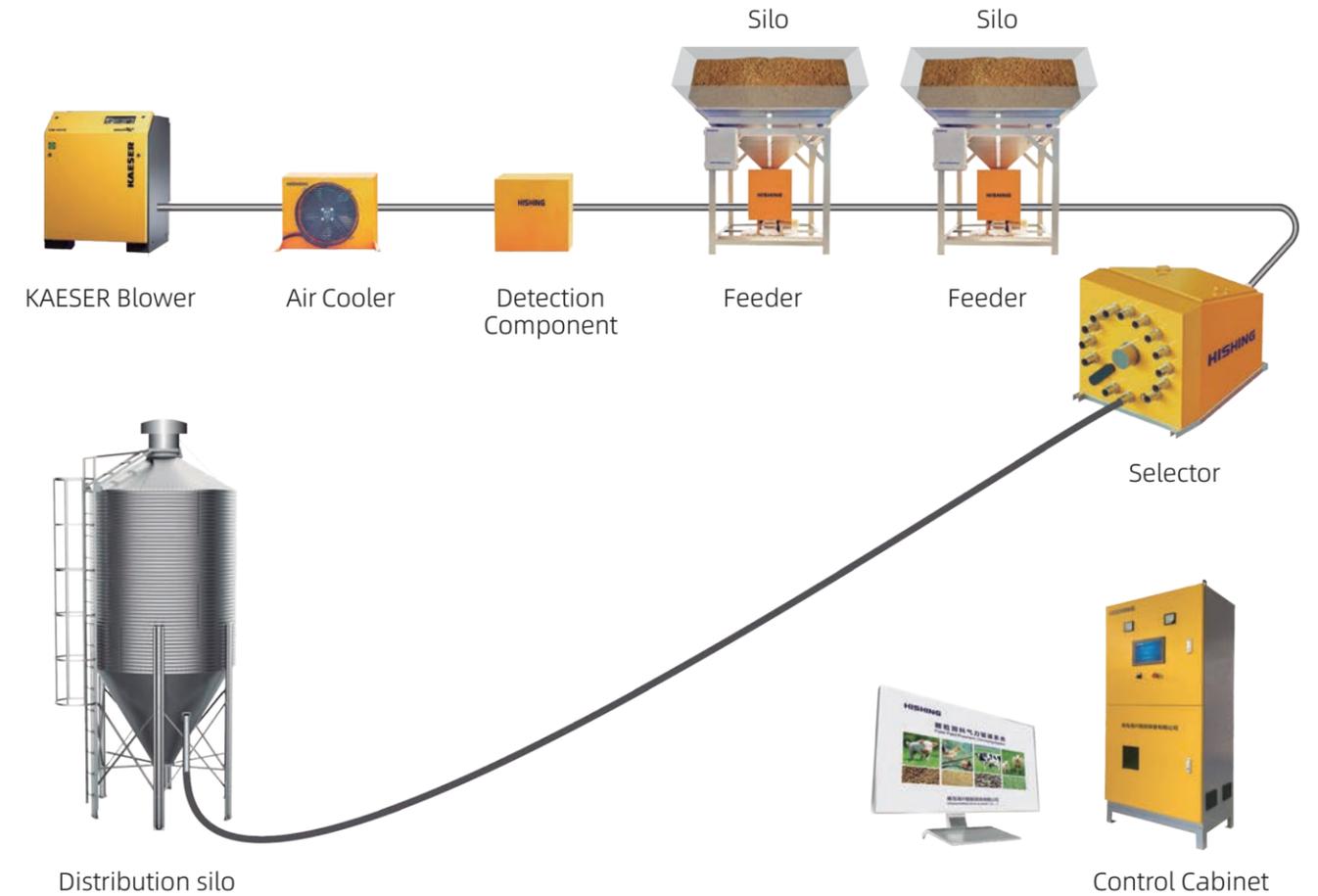
HSA832

HSA832 is a pigsty environmental controller specially developed for modern and efficient breeding farms with IoT operation and maintenance management functions, equipped with a brand new refined ventilation control scheme.

- 10.1 inch touch screen human-computer interaction
- 32 sets of working relays+1 set of alarm relays relay, analog input/output free configuration
- free configuration of digital input and position feedback input
- monitoring and control of CO₂, NH₃, and H₂S concentrations
- light + water monitoring and control
- temperature control for heat lamps + wet curtains
- real time monitoring of alarm system
- environmental data history
- with IoT remote operation and maintenance function
- real time monitoring of temperature and automatic control of ventilation level



It is a positive pressure dilute phase pneumatic conveying equipment that uses high-speed air flow to transport pellet to the sorting bin, achieving automatic feeding with fixed timing, quantity, and parameters.



- low broken rate: measured between 1% - 4%, compared to the crushing rate of 15% - 30%, it significantly reduces feed loss and lowers costs.
- clean and residue free: the pipeline does not leave any residue and not cause feed pollution.
- safe transmission: it uses a complete PE pipe, with good sealing performance and high strength. In extreme weather conditions such as rain, snow, and strong winds, the pipe will not water, freeze, or break, and will work 24/7.
- easy installation: no need for aerial installation during high-altitude operations. Pipelines can be tailored to local conditions and even laid along the trench, greatly reducing installation costs.
- unrestricted terrain: even if the pipeline is curved somehow, it does not affect the feeding rate. It is the best solution for feed transportation in complex terrain and mountain based farms.
- worry free: two or more feed systems can be manually switched to each other for backup,

greatly improving feeding safety.

- accurate measurement: the average error of feeding weight is controlled within 3%, achieving precise fixed point, quantitative, and timed feeding.
- long distance transportation: now it has the ability to transport distances of 400 meters ~ 600 meters, other distances can be customized according to user needs.
- automation control: the entire process is intelligent and automatic, without manual intervention.
- remote monitoring operation: the whole process can be monitored and operated in the field, via control center, remote Internet and handheld terminal.
- Internet of Things feeding records: feeding historical data can be viewed remotely via the Internet and exported to EXCEL form, which is convenient for accurate financial analysis.