

“The Ultimate Destination for Endless Technology”

SOFTWARE

FILTRATION EQUIPMENT

| Technology | Design | Analytical | Economic |

AQUACULTURE EQUIPMENT

Technology | Design | Analytical | Economic

AQUACULTURE EQUIPMENT

101 10001100 11000 1100000111 10100000011 0001 11 011011 110000000111

0001 111 011011 110000001111 10111000011001 101 110000001111

ABOUT US

ESTABLISHMENT

Founded in 2009, SAVELSAN started its operations with R&D activities and has successfully carried out remarkable projects in the field of domestic and national high-tech systems. Our company, which has adopted continuous improvement and quality as its core principles, continues its investments in machine design, software, electronics, and manufacturing. We design, manufacture, and deliver customized machine solutions tailored to your specific needs in various industries, helping you simplify your operations and reduce production costs within the shortest possible time.

OUR MISSION

- With our approach of always aiming for excellence and our strong operational expertise, our goal is to be an organization that meets our customers' expectations at the highest level and continuously improves this capability.
- To be accurate, reliable, and committed to continuous improvement. To become a solution partner for the companies we work with. While achieving this, we remain committed to our principles of providing competitive prices and high-quality materials in today's rapidly changing market, where competition is increasing and profit margins are continuously decreasing.
- To maintain the highest level of service standards for the products we sell, both in terms of technical support and logistics.
- To contribute added value to the national economy while providing all these services.

OUR VISION

- To be an organization that continuously aims to improve its processes and reduce costs through advanced technology, high quality, and innovative approaches in both national and international markets.
- To ensure the delivery of accurate and reliable solutions in accordance with standards and acceptable quality requirements by utilizing the opportunities provided by advancing technologies, while achieving customer satisfaction.
- To provide all kinds of technical and related support for the projects we have completed and will undertake.

OUR QUALITY POLICY

- To be competitive in the global market through our product quality, reliability, and experience.
- To adopt a customer-oriented quality approach throughout our entire organization.
- To improve our quality system and production efficiency by providing the necessary technological investments and training.
- To ensure that quality is not considered as an achieved and maintained level for our company, but as a continuously evolving and renewing target shaped by global developments and changing conditions.

FISH NET WASHING UNIT

The products required in every area of aquaculture play a vital role in reducing operational costs. By integrating advanced technological systems into these product groups, our company has set new standards within the industry. The same innovative approach has been applied to our net washing units, offering customers numerous advantages, enhanced features, and greater ease of use through the latest technological developments.



Our net washing units are designed with the latest technology and innovative engineering to clean fish farming nets quickly and efficiently without causing damage. The programmable washing options ensure effective cleaning while preserving the integrity of the nets. The units are available in painted carbon steel, AISI 304 stainless steel, or AISI 316 stainless steel, depending on customer requirements. Standard capacities include 9 m³, 15 m³, and 24 m³, providing solutions for a wide range of applications. In addition, custom - designed units can be manufactured in different sizes and specifications to meet specific process requirements and customer needs.

Technical Specifications

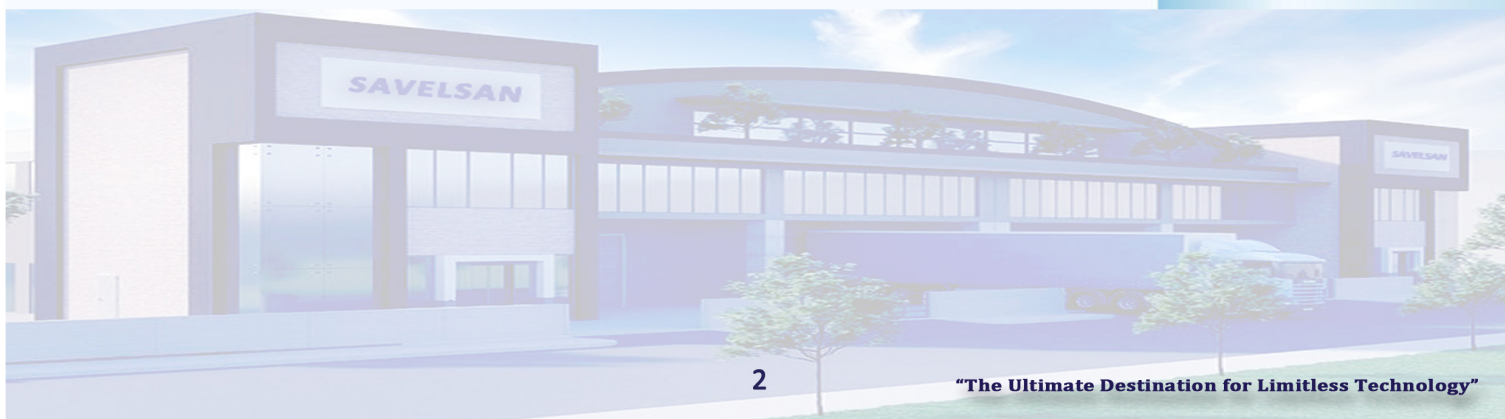
- Available in 9 m³, 15 m³, and 24 m³ capacity options
- Automatic lid positioning system
- Programmable washing modes **
- Programmable washing time **
- High-pressure water system **
- Suitable for both fresh and seawater use
- Variable speed control system
- Clean water inlet and wastewater outlet
- Bidirectional washing operation
- Automatic and manual operating modes
- Corrosion-resistant construction
- Ladder and access platform
- Emergency stop and lid alignment controls on the platform
- Heavy-duty frame designed for demanding operating conditions
- High efficiency with reduced water consumption



One of the major challenges in fish farming is the fouling of cage nets by algae, mussels, and other marine organisms. This biofouling hinders fish growth and feeding, negatively affecting overall production performance. The most significant consequence of net fouling is the accumulation of unwanted organisms, which reduces the mesh openings and restricts water circulation through the cages. As a result, the removal of metabolic waste harmful to fish becomes more difficult, while dissolved oxygen levels in the water decrease. To prevent these adverse effects and maintain optimal farming conditions, regular cleaning of fish cage nets has become an essential practice in modern aquaculture.



** Optional



FISH NET WASHING UNIT

Fish Net Washing Unit					Specifications
MODELS	FN-9	FN-15	FN-15s	FN-24	FN-24s
Capacity	9 m ³	15 m ³	15 m ³	24 m ³	24 m ³
Drive Type	Electric	Electric	Electric	Electric	Electric
Voltage	380 V	380 V	380 V	380 V	380 V
Power	18,5 kW	22 kW	22 kW	30 kW	30 kW
Gearbox	M tipi IE3	M tipi IE3	M tipi IE3	M tipi IE3	M tipi IE3
Motion Drive	Chain Sprocket	Chain Sprocket	Chain Sprocket	Chain Sprocket	Chain Sprocket
Bearing	SNH Bearing Housing	SNH Bearing Housing	SNH Bearing Housing	SNH Bearing Housing	SNH Bearing Housing
Programmable Menu	Manual	Manual	Automatic	Manual	Automatic
Lid Alignment	Manual	Manual	Automatic	Manual	Automatic
Bidirectional Washing	Available	Available	Available	Available	Available
Speed Control	Manual	Manual	Automatic	Manual	Automatic
Time Control	Manual	Manual	Automatic	Manual	Automatic
Moving Platform	Available	Available	Available	Available	Available
Platform Control	Available	Available	Available	Available	Available
HP Water System	Optional	Optional	Optional	Optional	Optional
Drum Size	R1,8 x 3,5 m	R2,2 x 3,8 m	R2,2 x 3,8 m	R2,4 x 4,5 m	R2,4 x 4,5 m
304 SS	Available	Available	Available	Available	Available



Drum Adjustment Control

Emergency stop button for abnormal situations

Manual lid alignment can be performed.

Can also be used with the automatic lid positioning system

1 m cable length reach

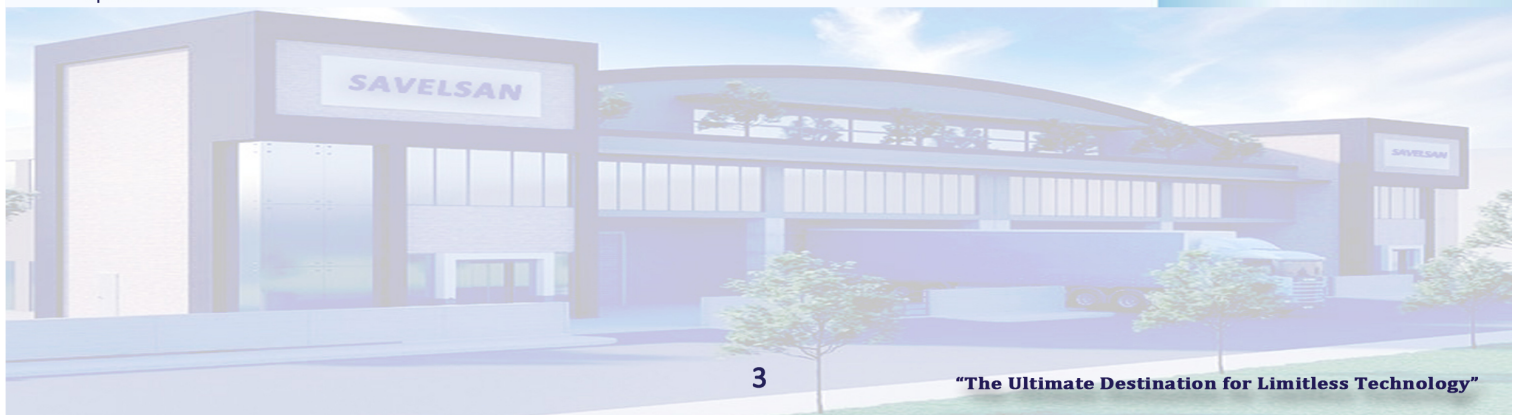
24 V trigger voltage

The "S" series models of our net washing units feature programmable washing options, allowing the washing process to be completed automatically. This feature provides users with greater convenience while ensuring that fish nets are cleaned quickly, efficiently, and without causing damage or wear.



Upon customer request, other models can also be equipped with this optional feature. In addition, existing net washing machines owned by customers can be modified with an "Automatic / Manual" operating system at low cost, provided that their process and component structure are suitable for the required modifications.

** Optional



AUTOMATIC FISH GRADING MACHINES

Our automatic fish grading machines are designed to grade all types of fish ranging from 200 g to 2,500 g. Depending on fish size, the average grading capacity is 2 – 8 tons/hour. We offer standard grading solutions with 3 or 4 lanes for different fish sizes and applications. In addition, customized projects can be developed according to customer requirements and specific needs. With a compact design and integrated wheels, the machines provide easy mobility and convenient operation. Manufactured entirely from AISI 316 stainless steel, they are highly resistant to seawater conditions. The models are compatible with fish transfer pumps and are available with both automatic and manual operating options. In the automatic version, once the calibration parameters are set and stored according to the fish species, no further calibration is required throughout the operating period.



Fish Grading Machines			Specifications
MODELS	FG-5	FG-50	FG-50s
Fish Size	200 - 500 gr	200 - 2500 gr	200 - 2500 gr
Capacity	200 - 3000 kg/hour	4 - 8 ton/hour	4 - 8 ton/hour
Drive Type	Timing Belt and Pulley	Timing Belt and Pulley	Timing Belt and Pulley
Mechanical Type	Mechanical	V Conveyor	V Conveyor
Operating Mode	Manual	Semi-Automatic	Automatic
Control Trigger Voltage	24 V	24 V	24 V
Conveyor Adjustment Drive	Coupled Screw Shaft	Coupled Screw Shaft	Coupled Screw Shaft
Drive Motor	0,37 kW Monofaze	0,75 kW Trifaze	0,75 kW Trifaze
Variable Speed Inverter	Available	Available	Available
Gearbox	E40 Housing 1:30	E50 Housing 1:30	E50 Housing 1:30
Operating Voltage	380 V Trifaze	380 V Trifaze	380 V Trifaze
Water Pump	0,55 kW Monofaze	0,75 kW Monofaze	0,75 kW Monofaze
Flow Rate - Suction - Disc.	1,6 m³/h - 7 m- 25 m	5 m³/h - 9 m- 51 m	5 m³/h - 9 m- 51 m
Frame Structure	SS304 Stainless Steel	SS304 Stainless Steel	SS304 Stainless Steel
Chassis Frame Structure	Aluminum Sigma	Aluminum Sigma	Aluminum Sigma
Feeding Tank	Available	Available	Available
SQL & FCR System	--	--	Available
Portable Wheel Structure	Available	Available	Available
Outlet Line Number/Diameter	3 / 110 mm	3+1 / 110 mm	3+1 / 110 mm


SAVELSAN®

Technological

Double-Sided Conveyor with Inverter (Variable Speed)

Automatic / Manual System Options

USART Communication and FCR-Based Information System Infrastructure **

SQL-Based Information System **

4x6 Counter System (50 g<) **

Design

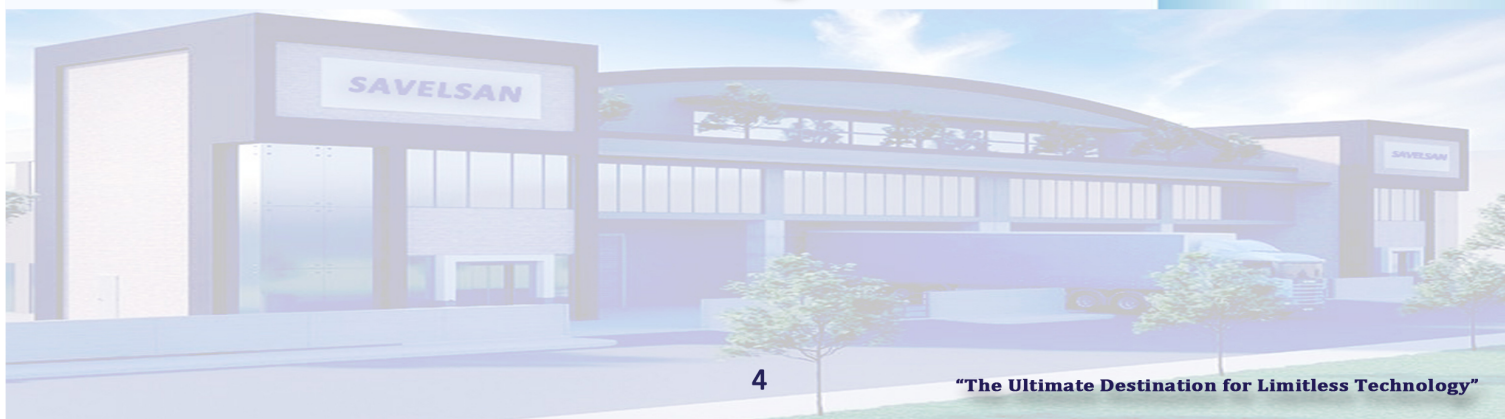
Compatible with Fish Transfer Pump

Chrome Shaft and Bearings

Foldable and Adjustable Feeding Tank



** Optional



SEMI-AUTOMATIC FISH GRAING MACHINES

Fish grading is available for all types of fish ranging from 0.4 g to 500 g, with an average capacity of 300,000 – 1,000,000 fish/day, depending on fish size. Grading is performed with 2 or 3 lanes. The machine has a compact design and provides easy mobility thanks to its wheels. It is manufactured entirely from stainless steel. The models are compatible with fish transfer pumps and are available with semi-automatic or manual operating options.



Fish Grading Machines			Specifications
MODELS	FGM-10s	FGM-20	FGM-20s
Fish Size	0,1 - 1000 gr	0,1- 000 gr	0,1- 1000 gr
Capacity	300 - 950 Thousand pcs/day	300 - 950 Thousand pcs/day	300 - 950 Thousand pcs/day
Drive Type	Belt Pulley	Belt Pulley	Belt Pulley
Drive Motor	0,25 kW Monofaze	0,37 kW Monofaze	0,37 kW Monofaze
Operating Voltage	220 V Monofaze	220 V Monofaze	220 V Monofaze
Operating Mode	Semi-Automatic Controlled	Manual	Semi-Automatic Controlled
Frame Structure	304 Stainless Steel	304 Stainless Steel	304 Stainless Steel
Water Pump	0,75 kW Included in Body	0,75 kW Included in Body	0,75 kW Included in Body
Max. Flow Rate	5,2 m³/hour	5,2 m³/hour	5,2 m³/hour
Variable Speed Inverter	Available	Available	Available
Outlet Line Number/Diameter	2 Piece / 110 mm	3 Piece / 110 mm	3 Piece / 110 mm
Feeding Tank	Available	Available	Available
Number of Drums	1 Piece	2 Piecet	2 Piece
Drum Height Adjustment	Z-Axis Battery	With Collector Head	Z-Axis Battery
Paralel Tambur Hareketi	Available	--	Available
Drum Motion Type	Linear	Linear	Linear
Drum Speed Adjustment	Available	Available	Available
Linear Height Speed Adjustment	Available	Available	Available
Linear Precision	100 Micron	100 Micron	100 Micron
Drum Height Indicator	Digital	Analog	Digital
Dimensions	2360 x 485 x 1212 mm	2455 x 605 x 1280 mm	2455 x 605 x 1280 mm

Advantages

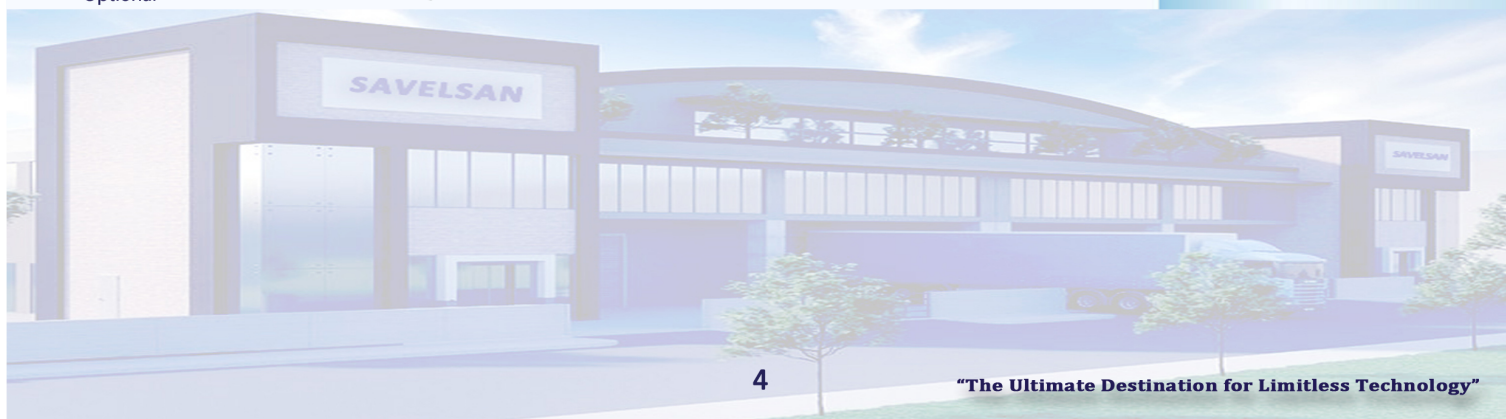
- Manual or Semi-Automatic Operating Options
- Drum Speed Adjustment Control
- Digital display size range
- Automatic Drum Gap Positioning System
- 100 Micron Linear Motion Precision
- Pool Bottom Lighting
- Control Hand Contact Voltage 24 V
- Spiral Protected Cable Installation
- Drum Distance in Home Mode 500 Micron

Design

- Z-Axis Battery Movement Mechanism
- Entirely 304 Stainless Steel Sheet Body
- 10 mm Transparent Solid Polycarbonate Separation Chamber
- Compatible with Fish Transfer Pump
- Chrome Shaft and Bearings
- Removable and Adjustable Feeding Tank
- Portable Compact Structure with Wheels

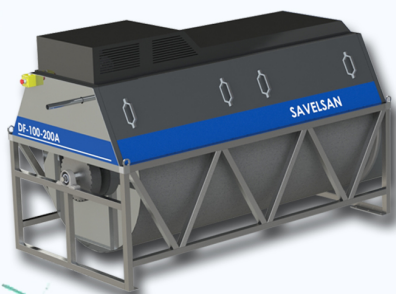
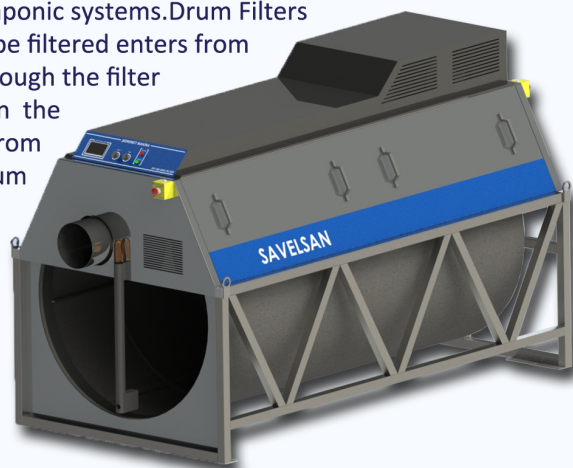


** Optional



DRUM FILTER

Surface water filtration provides an ideal solution for filtering fibrous and highly polluted water. It is effectively used for 30–3,000 micron filtration in fish farm inlet and outlet water filtration, hatcheries, recirculating aquaculture systems (RAS), and aquaponic systems. Drum Filters are self-cleaning mechanical filters. The water to be filtered enters from the side of the drum and is filtered by passing through the filter screen. Due to the water level difference between the inside and outside of the drum, the water flows from the inside to the outside of the slowly rotating drum filter by gravity. During this process, particles and other contaminants adhere to the inner surface of the drum. During the rotation movement, particles are removed from the surface by high-pressure spray nozzles and collected in a tray. This process prevents the breakdown of soft organic particles and increases the filtration efficiency.



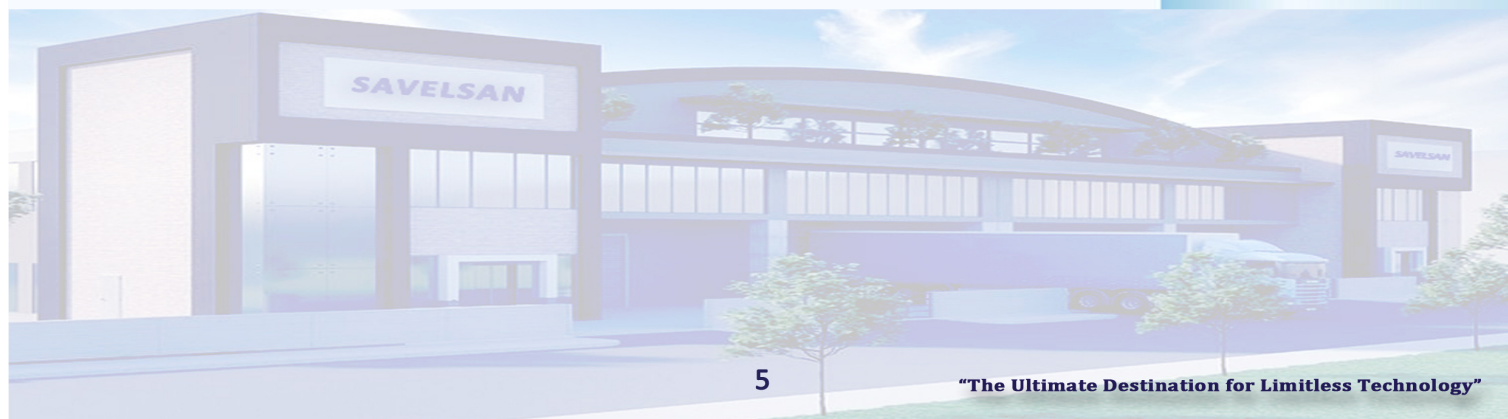
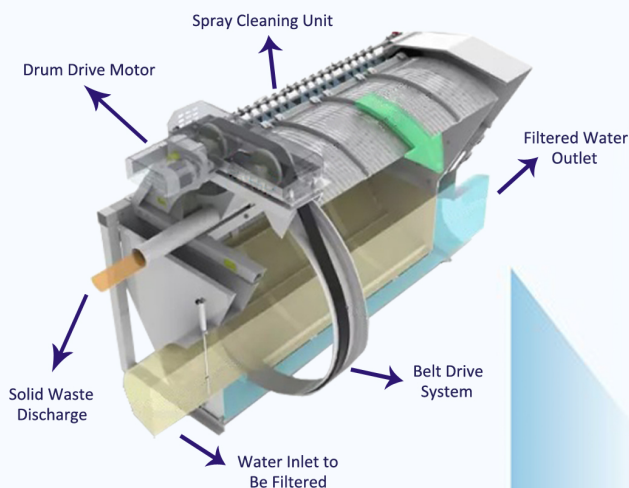
Technical Specifications

- 30 - 3000 Micron Filtration Options
- Capacity Options up to 4500 m³/h
- SS304 and SS316 Stainless Steel, Polypropylene Corrosion-Resistant Body
- Automatic and Manual Operating Options
- Phase Protection Switch Against Phase Changes and Voltage Fluctuations
- Light and Audible Warning System Controlled via Electrical Panel for the Entire System
- Audible Warning Alarm and Stop Function for Unusual Changes in Water Flow Rate
- Automatic Audible Warning Alarm for Excessive Drum Load and Rotation Speed Reduction
- Easy Replacement of Filter Screen

Custom design and manufacturing are available in different dimensions according to customers' process requirements and needs.



With the help of sensors in the filtration system, it operates automatically depending on the increase or decrease in water flow rate or the pollution load. The operating duration of the system is controlled by timers connected to the sensors. Thus, there is no need for any personnel to continuously monitor the system, and the system is able to protect itself based on changes in the water level.



SAND SEPARATOR FILTER

HSE-1 / HSE-2
Sand Separator
Filter

HS-8
Hydrocyclone

It is a separator that removes particles heavier than water before they enter the system. It is used for the filtration of water containing sand, gravel, and heavier particles than water (such as algae, sludge, and silty particles of organic matter). Due to its simple design, it is more practical and user-friendly compared to other sand separators. It is recommended for well water, river, lake, or artificial pond water applications.

Advantages

- Easy Installation
- Low Operating Cost
- Sand Removal with a Screw Conveyor Operating at Precise Rotation Speed
- High Sand Separation Efficiency at Different Water Flow Rates
- Sand Accumulated at the Bottom is Discharged by a Screw Conveyor with Precise Rotation Speed.

Technical Specifications

- Capacity Options: 75 - 290 m³/hour
- Provides easy operation and maintenance with its simple design.
- Long service life with epoxy-polyester and SS304 & SS316 stainless steel coating.
- HS-8 model operates completely on the cyclone principle at 0.3 - 8 bar pressure.
- Performs effective filtration (separation) with minimum pressure loss.
- Can be used in single or modular systems in different sizes and applications.
- Available in two different models: manual and automatic.
- Automatic models can perform self-cleaning without interrupting the water supply.
- Helical cleaning system (optional for HS-8 model).
- Separates solid particles larger than 200 mesh.
- Custom manufacturing is available according to customer requirements.

Water enters tangentially into the cylindrical walls of the hydrocyclone body. The water reaching a certain velocity along the cylinder wall creates a centrifugal force. Under the effect of this centrifugal force, solid particles heavier than water fall through the narrowing conical section of the hydrocyclone and accumulate in the collection chamber. Thanks to the specially designed cylindrical wall and conical body structure, the water reaches the desired velocity along the cylindrical wall and creates a cyclonic trajectory, increasing filtration efficiency.

Sand Separator Filter		Specifications	
MODELS	HSE-1	HSE-2	HS-8
Capacity	75 m ³ / hour	125 m ³ / hour	175 - 290 m ³ / hour
Operating Pressure	--	--	0,3 - 8 bar
Screw Cleaning	Available	Available	Optional
Body Structure	304 Stainless Steel	304 Stainless Steel	ST 37
Max. Waste Flow Rate	1 m ³ /hour	3 m ³ /hour	0,5 m ³ /hour
Water In./Out. Diameter	DN150/200	DN150/200	200 mm
Coating	--	--	Epoksi Boya
Power	0,75 kW	1,1 kW	--

LEAF FILTER

In the field of inland aquaculture, leaf filters play an important role as the first step in filtering foreign materials from river water. Especially during natural disasters such as floods, when unwanted materials enter the water, leaf filters are essential for eliminating these issues and preventing related problems. They are specially designed to meet aquaculture requirements by filtering water through gravity without the need for pressure. They are available for all water intake structures, systems, and open channels. They are used to remove heavy pollutant loads and large particles such as nylon, tree branches, and leaves.



LFC-150
Leaf Filter



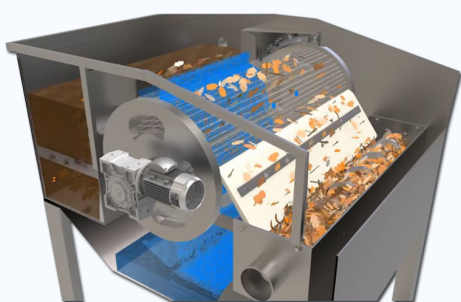
LFP-150
Leaf Filter

Technical Specifications

- Capacity Options up to 210 - 5000 m³/hour
- Filtration Accuracy up to 1000 Micron
- Adjustable Rinsing & Cleaning System Based on Water Level and Timer
- SS304, SS316 Stainless Steel Body Structure
- Automatic Self-Cleaning
- Max. 10.2 rpm Rotation Speed and Adjustment Function
- 380 V Three-Phase 3 kW Motor and Gearbox
- Chain Gear or Belt Pulley Drive Options
- Sensor Control **

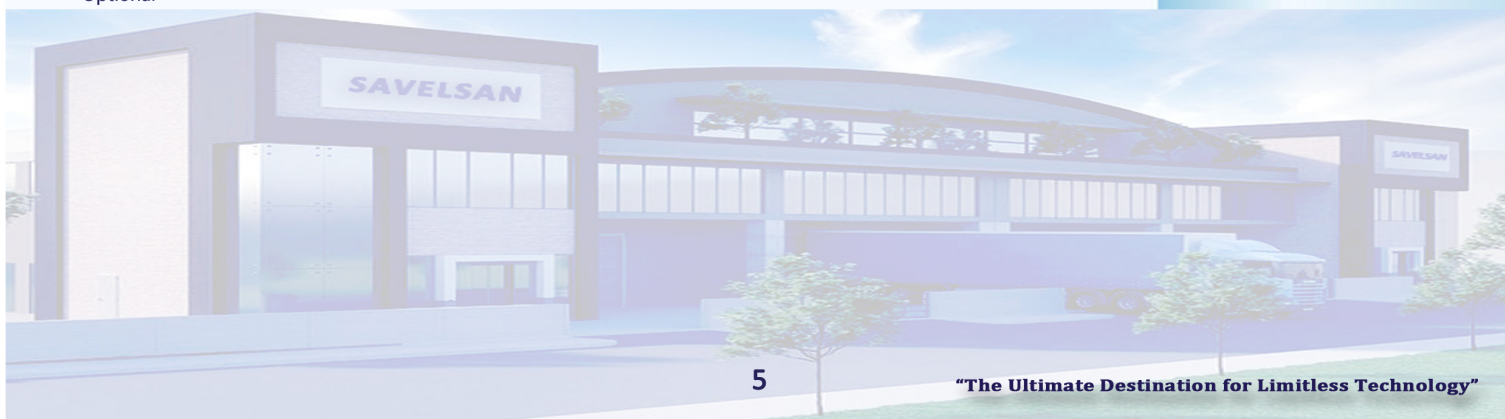
Advantages

- Lower energy cost compared to pressurized filtration systems.
- The body and moving mechanisms are manufactured from stainless steel, providing high corrosion resistance and suitability for long-term use
- Capacity can be adjusted according to requirements due to its modular disc structure
- With its modular design and suitable dimensions, it can be easily installed into required lines in existing and planned facilities.



It has been developed for practical filtration in the use of well water for fish egg production in hatcheries. It is suitable for hatcheries where high water flow rates are not required. Drum cleaning is performed by nozzles located inside the system. Materials such as leaves, stones, and other particles collected in the particle chamber are discharged from the system by means of a screw conveyor. It provides filtration accuracy down to 200 microns

** Optional

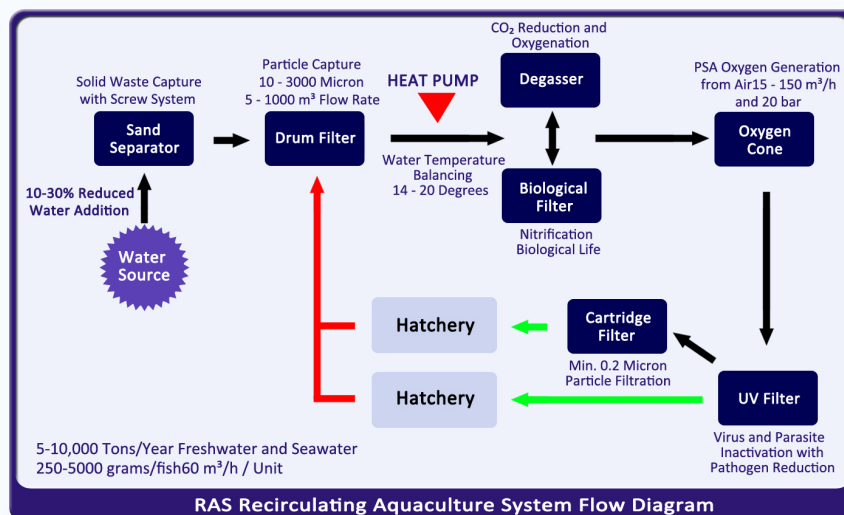


RAS RECIRCULATING AQUACULTURE SYSTEM

It is a controlled aquaculture system based on the reuse of water after removing feed and fish waste from the water and converting toxic gases harmful to fish into harmless substances through biological treatment. The environmental impacts of traditional aquaculture have been widely discussed in recent years. Although aquaculture criteria are defined by laws and regulations and efforts are made to minimize environmental impacts, aquaculture facilities can negatively affect the natural balance of water resources when they are not operated with appropriate technologies and procedures. RAS Systems offer a solution to this problem, based on the principle of purifying and continuously recirculating water.

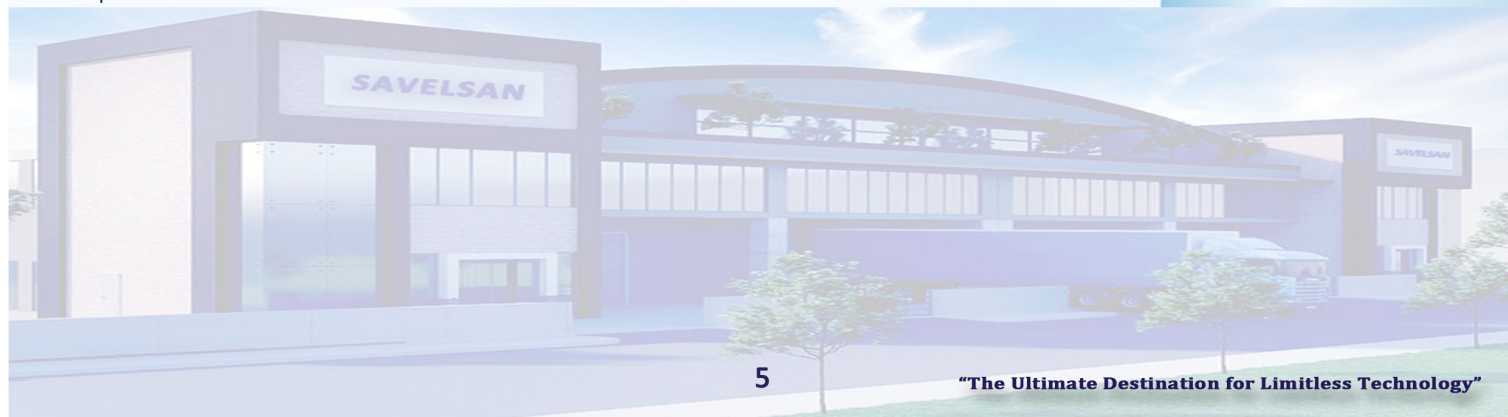


The water in fish tanks is passed through mechanical and biological filters to remove particles and toxic substances. The water quality and chemical composition are regulated, enriched with oxygen, and then returned to the system. In this system, the environmental parameters required for the growth, development, and physiological activities of aquatic organisms are artificially controlled. Thus, high-density production can be achieved while saving time, space, and most importantly, water consumption.



Recirculating aquaculture systems (RAS) can be operated at different production intensities depending on the amount of water that is circulated or reused. Some systems are super intensive farming systems installed inside closed, insulated buildings, using as little as 300 liters of water per kilogram of fish produced per year, and sometimes even less. Other systems use approximately 3 m³ of new water per kilogram of fish produced per year, resulting in higher water consumption and greater pollution compared to RAS systems.

** Optional



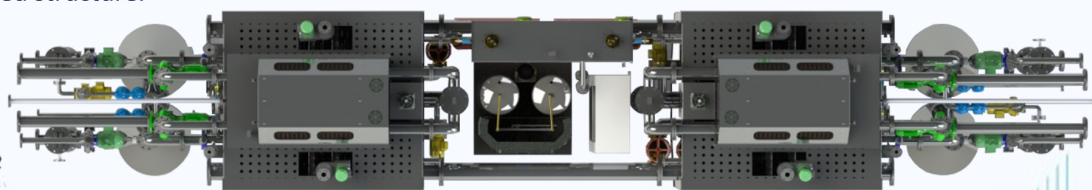
RAS RECIRCULATING AQUACULTURE SYSTEM

1- Sand Separator: Based on the settling tank principle, this unit removes unwanted solid waste materials (such as sand, sludge, etc.) from the water through sedimentation with the help of a screw conveyor. The collected waste is automatically discharged from the system, and the filtered water is then introduced into the Recirculating Aquaculture System. It is not a unit included within the Closed-Loop System. It is manufactured as an optional external unit for water sources where it is required.

2- Drum Filter: Micro-perforated rotary drum filters are an alternative to sand filtration, particularly when the water contains a high concentration of suspended solids. They are designed to provide a long service life with low operating and maintenance costs. The micro-perforated filter surface allows water to pass while retaining solid particles, providing solid waste filtration within the 40–100 µm range. The design criteria for solid waste loading are based on a filtration surface loading rate of 0.200 kg/m² per minute. Design parameters such as filtration area and drum rotation speed depend on the water flow rate across the filter surface. The daily energy consumption of the drum filter varies according to its size. In addition to being an integral part of the Recirculating Aquaculture System, it is also manufactured as a standalone unit.

3- Heat Pump: The water temperature is maintained at the desired aquaculture parameters. While the required temperature range in grow-out tanks is 14–20°C, the water temperature supplied to hatcheries is adjusted to 8–12°C.

4- Degasser: This unit is designed to achieve high oxygen transfer efficiency and CO₂ reduction performance. In addition, through R&D studies, bacterial biofilm formation on the membrane surface has been prevented by providing low head pressure loss, improved hole geometry, and a smooth surface design. Furthermore, oxygen transfer efficiency has been increased through easier removal of air bubbles from the membrane surface and its highly perforated structure.

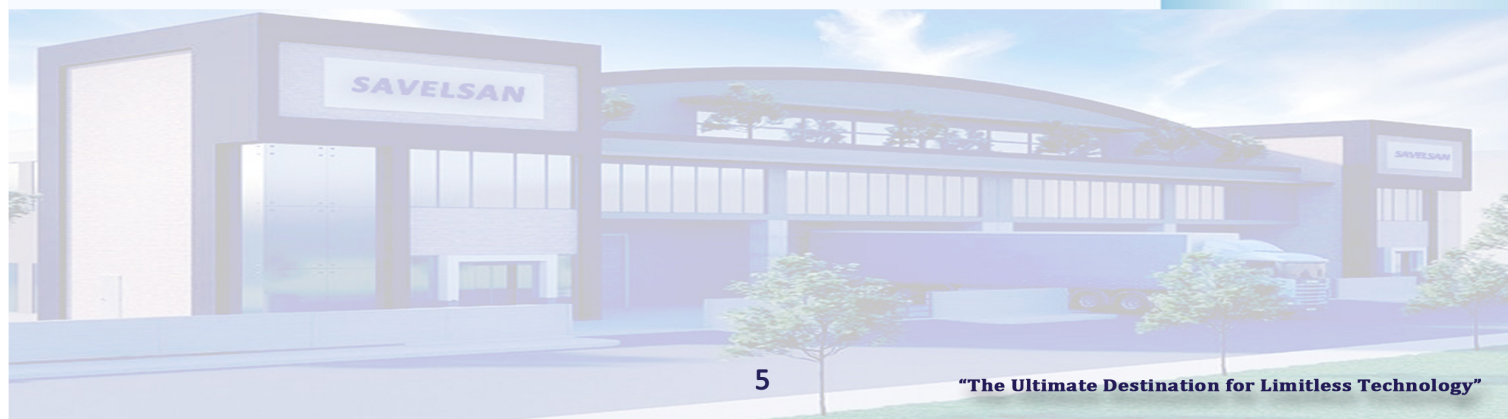


5- Biological Filter: The oxidation of reduced nitrogen (NH₃) by bacteria is known as the natural process of nitrification. The techniques used to promote this process are applied in wastewater treatment to remove ammonia from the waste stream before it is released back into the environment. These techniques have been adapted for recirculating aquaculture systems.

6- Oxygen Cone: Designed to optimize the saturation of oxygen and ozone in water by generating oxygen from air using PSA technology without the need for an external oxygen cylinder. Gas transfer efficiency of up to 100% is possible. Water and oxygen enter the top of the cone at a relatively high velocity. The water flow pushes the oxygen bubbles downward, and as the cone widens, the flow velocity decreases, allowing the bubbles to remain in the system until they are completely dissolved.

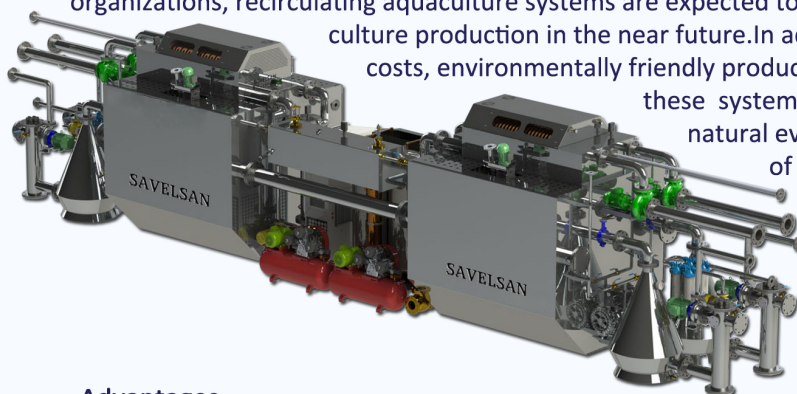
7- UV Filter: The UV filtration system is one of the most widely used applications for water disinfection. In aquaculture, UV sterilization systems significantly reduce the number of pathogens in incubation and grow-out facilities, providing the inactivation of harmful bacteria, viruses, and parasites that affect many fish species.

8- Cartridge Filter: Integrated into the closed-loop system for use in hatcheries. It provides final-stage water filtration by capturing particles down to 0.2 microns. It operates at a pressure range of 15–45 psi.



RAS RECIRCULATING AQUACULTURE SYSTEM

Nowadays, the protection of water resources and environmentally friendly practices have become a major necessity. With the pressure and influence of international agreements and environmental organizations, recirculating aquaculture systems are expected to become mandatory in aquaculture production in the near future. In addition to low labor and feed costs, environmentally friendly production and farming advantages, these systems are minimally affected by natural events. By enabling the control of all parameters that affect growth, they allow companies to better manage their production efficiency and economic performance.



Advantages

- Ability to establish the facility close to the market, reducing product transportation time and costs
- Requires less land compared to pond-based systems
- Effective and necessary for highly polluted water sources
- Maximum utilization of existing water resources
- Enables production in areas with limited water availability
- Provides complete environmental control
- Provides biosecurity
- Easy transportation capability
- Container-type modular structure
- Low energy consumption
- Automatic & manual system options
- Corrosion-resistant material structure
- Resistant to harsh operating conditions
- Low requirement for chemicals and medication
- Fully controlled system operation
- Low water requirement
- Maximum utilization of unit area and volume
- High efficiency in disease control
- High stocking capacity
- Fast growth and early harvesting capability

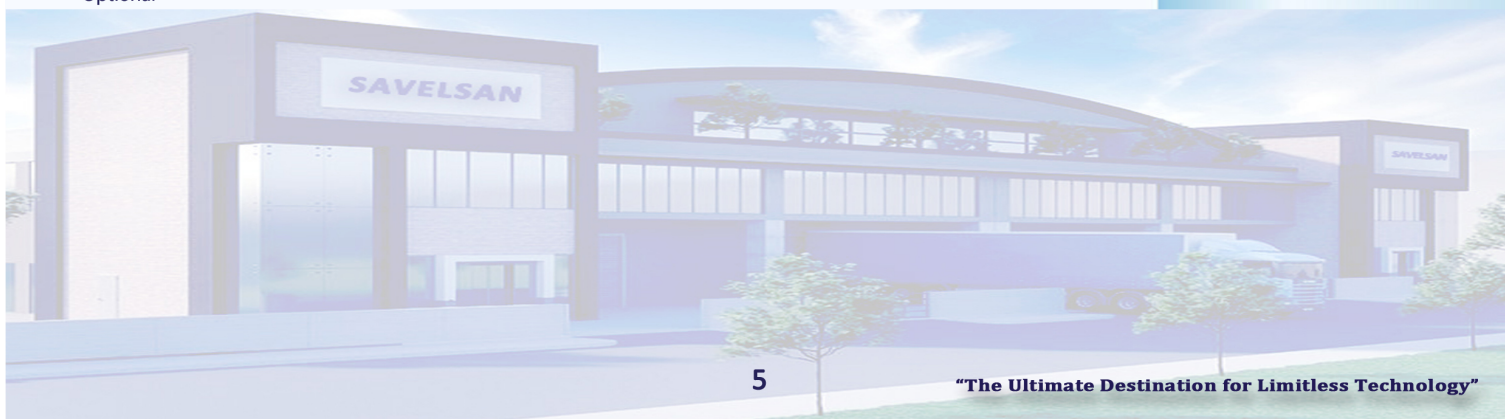


Technical Specifications

- Mechanical filtration 200 - 100 - 50 - 25 microns
- Fine filtration 10 - 5 - 1 micron
- Biological filter
- Protein skimmer
- UV & ozone sterilization
- Heating & cooling system
- Oxygen, temperature, pH measurement, control & distribution system
- Dephosphorization system
- Denitrification system
- Automation Control System
- Computerized Management System**



** Optional





SAVELSAN®

SIMULATÖR ELEKT. İNŞ. SAN. ve TİC. LTD. ŞTİ.

"The Ultimate Destination for Limitless Technology"

+ 90 530 749 22 42

+ 90 530 232 61 34

+ 90 533 677 51 96

Arsin, Trabzon/TURKEY

info@savelsan.com

www.savelsan.com

