

**FinnSonic**

# FINN SONIC VERSA GENIUS

Ultrasonic cleaning lines



**modular • compact • smart**



# FinnSonic Versa Genius

## Smart solution for component cleaning in manufacturing industries

Advances in technological development set ever higher requirements for component cleanliness in today's manufacturing industries. FinnSonic Versa Genius represents the 3<sup>rd</sup> generation of our popular Versa range. It boasts many new thoughtful details as well as innovative FinnSonic Genius ultrasonic technology details. FinnSonic Versa Genius offers a perfect match with your requirements for cleanliness, productivity and EHS (environmental, health and safety) aspects.

### Main benefits

- » Modular - flexible process configuration for optimal cleaning result
- » Compact – small footprint
- » Smart – high productivity combined with excellent EHS aspects

### Main characteristics

- » Tank sizes ranging from 50 to 140 litres
- » Load capacity ranging from 10 to 35 kg
- » Modular construction
- » Washing, rinsing and drying modules
- » Bath maintenance modules
- » Process automation and materials handling modules

### Enhanced features

- » Cleaning performance
- » Flexibility
- » Usability
- » Energy efficiency
- » Safety
- » Reliability
- » Serviceability

### Main applications

- » Automotive
- » Metal
- » Machinery
- » Electronics
- » Aviation
- » Maintenance



# Cleaning process modules

## Flexible process configuration, optimal cleaning result

FinnSonic Versa Genius cleaning line is composed out of washing, rinsing and drying modules and their options. The scope can range from a single manually operated unit to a fully automatic multi-stage line. The line's basic module is the treatment tank.

FinnSonic Versa Genius sets new standards for module design. Thoughtful details in fluid connections, agitation and control features give you a more functional, flexible and energy efficient process.



## New standard for functional module design

- » Cleaning performance
  - FinnSonic Genius ultrasonic technology
  - Powerful JET spray under immersion
- » Flexibility
  - Easy connectivity of various tank module options
- » Usability
  - Ergonomic controls
  - Easy bath change
- » Energy efficiency
  - Immersion type heating elements
  - Digital generator technology
- » Reliability
  - Optimized clearances also for automatic processing
  - Constructions with extended life time
- » Serviceability
  - Increased component commonality

## FinnSonic Genius ultrasonic technology

Automatic adaptation of generator parameters - constant maximum performance.

- » Constant measuring of load – frequency and power regulation
- » Fully digital technology – nimble and energy efficient
- » Advanced diagnostics – performance monitoring and service capabilities



# FinnSonic Cleaning techniques



## Ultrasonic

- » Treatment unit with ultrasonic agitation – precise and pervasive cleaning
- » FinnSonic **Genius ultrasonic technology** – constant maximum performance
- » **Frequency Sweep** – uniform cleaning result
- » **Power Booster** – extra power for challenging contamination
- » **Degassing** – quicker degassing of a new bath
- » Available in 30 or 40 kHz versions
- » Ultrasonic transducers bonded to tank base
- » **Side transducer** versions available – when component geometry or contamination requires them



## JET

- » Treatment unit with spray under immersion – flow washing or rinsing of parts even with internal channels
- » Tip! Use for pre-cleaning or as the first rinsing step



## SonicJet

- » Treatment unit with **unique SonicJet technology** – combines ultrasonic and spray under immersion into one unit
- » For thorough washing or rinsing of components with complex geometry and internal channels
- » SonicJet control alternates the two functions with adjustable times



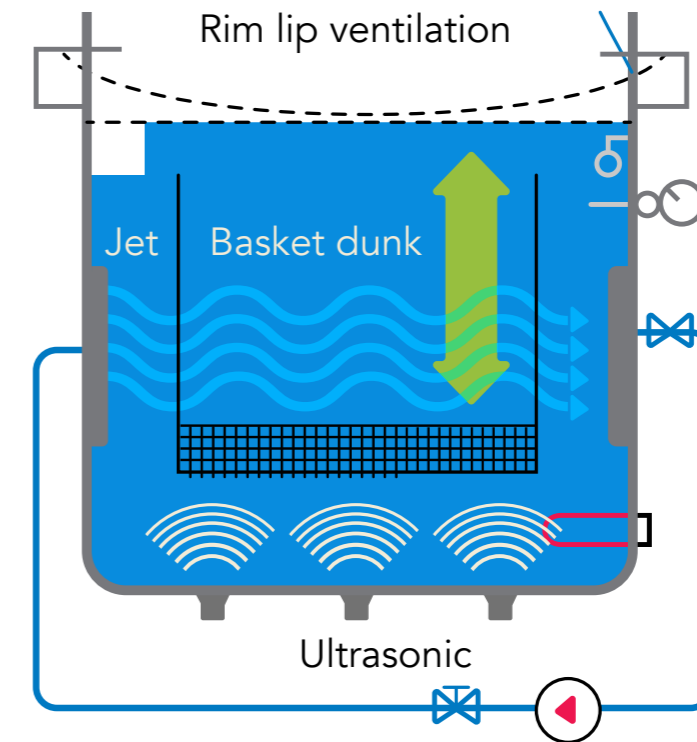
## Rinse

- » Treatment unit for immersion rinsing – for the removal of particle and detergent residues
- » Air bubble agitation (optional) – increased rinsing effect
- » Tip! Specify multiple rinsing steps in a cascade to save water – with three stages, the water consumption is reduced to one hundredth of what it would otherwise be
- » Tip! For residue free rinsing, specify tap water rinsing followed by two demineralized water steps in cascade



## Dry

- » Recirculating hot air dryer with powerful fan and heating - for effective drying of parts.
- » Noncombustible thermal insulation – safe and energy efficient
- » Insulated sliding lid – safe and energy efficient
- » HEPA filter with fan for air inlet (optional) – avoids contamination from the ambient air
- » Tip! Double the drying step for optimal line capacity
- » Vacuum dryers available - effective drying of complex components



## Control system

- » Treatment time and temperature control
- » Dry running protection
- » 7-day timer - automatic pre-heating
- » 3 memory slots – store favourite settings
- » External control interface – easy integration with robotized production cells

## Standard features

- » Heating and thermal insulation
- » Perimeter lip on the edge of the tank and drip plates between stages – contains drips and keeps the machine tidy
- » Filling and draining valves – easy bath change
- » Sloping tank base – effective draining
- » Overflow weir with valve – enables surface skimming
- » Dedicated connections for closed loop filter circulation
- » Adjustable feet – alignment on uneven floors

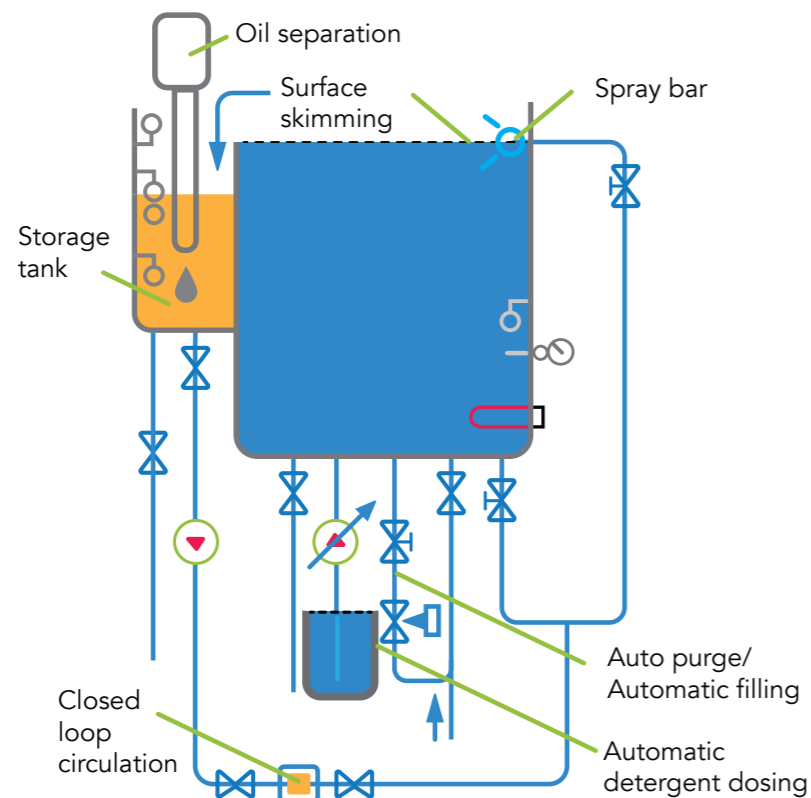
## Options

- » Standard wash baskets (parts are loaded in the basket for cleaning) – compatible with manual, PTM Easy Lift or TD automatic processing.
- » Rotating baskets – effective cleaning of bulk or complex components
- » Lift off or hinged lids – water and energy savings and prevention of air borne contamination
- » Basket dunking (up/down movement of the basket in the tank) – faster and more uniform cleaning with ultrasound, alternative agitation method for rinsing
- » Tip! Basket dunking always recommended with ultrasonic cleaning
- » Rim lip ventilation connection - ventilation of fumes, moisture and heat.
- » Compatible with All class flammable solvent – enables use of solvents in ultrasonic or JET units

# Bath maintenance

## Constant cleaning quality, minimized operating costs

Bath maintenance options play an important role when it comes to cleaning results, process stability and operating costs. Clean baths are a prerequisite for clean parts. Constant cleanliness is achieved by sufficient bath maintenance. Regular maintenance also helps to maximize the bath's service life and minimize operating costs. By using natural resources, such as water, more conscientiously and by producing less waste, bath maintenance contributes also to environmental aspects.



## Closed loop circulation

- » Particle filters for removing solid particles – necessary for achieving higher cleanliness levels, increases bath life
- » Wide range of filter grades available – right cleanliness result with optimized filter costs
- » Rinse water regeneration with active carbon and ion exchange – residue free rinsing with demineralized water

## Filter blockage alarm

- » Automatic notification when filters require changing – reduces daily checks for the operator

## Storage tank

- » External buffer tank for bath maintenance – extends bath life
- » Continuous surface skimming of oil and other debris from the wash unit – avoids recontamination of parts when lifting out
- » Stop n' Go pump control (optional) – optimal cleaning and filtration effect when circulation alternates with ultrasonic treatment
- » Tip! Accompany with one of the closed loop circulations with or without filter

## Spray bar

- » The spray bar is opposite the overflow weir in the treatment unit
- » Tip! A spray bar is a necessity with a storage tank

## Oil separation

- » Removes oil from the surface of the storage tank – longer bath life
- » The oil is collected into a separate canister – environmentally friendly waste separation

## Cascade

- » Cascade overflow between two treatment units – reduces water consumption
- » Tip! Use with consecutive rinsing stages

## Auto purge

- » Adds fresh water with each basket – ensures stable rinsing quality
- » Tip! Use for the tap water rinsing stage

## Automatic filling

- » Maintains correct water level in tank automatically – reduces operator involvement
- » Tip! Recommended to always use with automatic lines

## Automatic detergent dosing

- » Doses the washing chemical automatically – ensures stable washing quality
- » Can be used also for initial filling - improves safety in chemical handling
- » Tip! Always recommended to use with automatic filling if a chemical is used

## Common water inlet and drain

- » Collects individual unit connections to a single point – easy installation

## Conductivity measurement

- » In tank measuring of bath conductivity – monitors rinsing water quality
- » Tip! Combine with autopurge to optimize water consumption

# Process automation and materials handling

## Capacity goes hand in hand with health and safety

When the tank size, load weight or capacity requirements grow, materials handling and automatic process control become essential. A step up from manual processing is the FinnSonic PTM Easy Lift which assists with basket handling in an otherwise manual line. Ultimately the FinnSonic TD Basket Transporter provides fully automatic basket handling and process control. Automatic basket handling increases line capacity and reduces labour while contributing to ergonomics, health and safety. The automatic process control minimizes deviations and ensures constant quality with maximum productivity.



Reduces labour costs  
up to 50%

## FinnSonic PTM Easy Lift Unique FinnSonic innovation

- » Assists with handling the baskets throughout the process – more **ergonomic and safe** manual operation
- » A control arm with integrated thumb switches for lifting – easy to use
- » Vertical movement is pneumatically operated – does the lifting on behalf of the operator
- » Horizontal movement takes place on a passive linear guide – precise positioning with light manual input

## FinnSonic TD Basket Transporter

- » Fully automatic basket handling – increased capacity with reduced manual input
- » **Fully automatic process control** – constant quality with minimized deviation
- » Intuitive graphic user interface – easy to use wash program settings
- » Transporter force limits or protective fence with a light curtain – high level of operator safety
- » Loading and unloading tables with occupancy sensors – automatic cycle start and top loading prevention
- » Full encapsulation with lighting, access windows and a ventilation connection (optional) – contains noise, heat and vapour and prevents external contamination getting into the process
- » Loading and unloading conveyors (optional) – flexibility with buffering baskets
- » **Data logging and reporting** (optional) - fulfills quality system requirements
- » **Basket flagging** for automatic program selection (optional) – facilitates running a mix of multiple wash programs
- » FinnSonic NetService for remote support and updates (optional) – guarantees maximal usability



## Ultrasonic wash process modules

Technical information	FinnSonic Versa Genius 50	FinnSonic Versa Genius 90	FinnSonic Versa Genius 140
Basket dimensions (internal) (mm)	220 x 415 x 195(h)	295 x 545 x 310 (h)	400 x 540 x 360 (h)
Max load (kg)	10	20	35
Module dimensions (external) (mm)	505x772x917(h)	580x900x917(h)	690x900x917(h)
Tank dimensions (mm)	365x517x335(h)	438x645x430(h)	548x645x490(h)
Filling volume (l)	45	94	140
Heating power (W)	2000	3000	3000
Ultrasonic technology	FinnSonic Genius	FinnSonic Genius	FinnSonic Genius
Ultrasonic power nom/peak (W)*	600/1200	1200/2400	1200/2400
Ultrasonic frequency (kHz)**	30	30	30
Booster/Sweep/Degas	Yes/Yes/Yes	Yes/Yes/Yes	Yes/Yes/Yes
Filling valve	R 1/2"	R 1/2"	R 1/2"
Drain valve	R 1"	R 1"	R 1"
Overflow weir/valve	Yes/R 1/4"	Yes/R 1/4"	Yes/R 1/4"
Voltage (VAC)	380/220 – 415/240	380/220 – 415/240	380/220 – 415/240
Connected load (W)	4000	5000	5000

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\* Transducers bonded to tank base. Side transducer versions available.

\*\*40 kHz also available.



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FinnSonic maintains certified quality and environmental programs ISO 9001:2008 and ISO 14001:2004. FinnSonic products are GOST R approved by the Customs committee of the Russian Federation Government.