



WAM®

CONSEP®

MACHINERY FOR THE RECOVERY OF
CONCRETE AGGREGATES



CONCRETE AGGREGATES
RECOVERY



02

CONSEP®

WHY RECOVERING AND SEPARATING RESIDUAL CONCRETE IS IMPORTANT

Ready-Mix concrete batching plants, precast concrete production and quarries need to treat or separate and reuse residual concrete from jobsites and concrete manufacturing processes in general to turn it into a valuable resource.

The CONSEP® Aggregate Reclaiming automated machineries enable different operations to fit all the user needs.

By choosing the advanced automation and remote-control options, the user can benefit of an "Industry 4.0 ready" solution.

CONSEP® follows the principles of environmental sustainability in accordance with the goals of the United Nations' 2030 Agenda.

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MANY ADVANTAGES IN A SINGLE SYSTEM

CSP is an economic and innovative solution for recovering and washing of all the aggregates. The low operating costs provided by a self-cleaning patented technology qualify CSP as the perfect entry-level solution for small-medium production plants.

CSB is a machinery for high production plants where a quick cleaning of truck mixers and concrete pumps (3-5 minutes on average) must be combined with a perfect washing out of the aggregates.

CSC adds to all the CSB features, the capability to separate and wash sand and gravels for allowing an easy recovery for new concrete production. CSC minimizes the needs to store and dispose of waste, it saves precious natural resources, and it ensures the compliance with the relevant laws.

01

CONSEP® Buffer

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Inclined Screw Feeder in SINT® engineering polymer

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CONSEP® Classifier (aggregates > φ 5mm)

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CONSEP® Aggregate Reclaimer (aggregates < φ 5mm)



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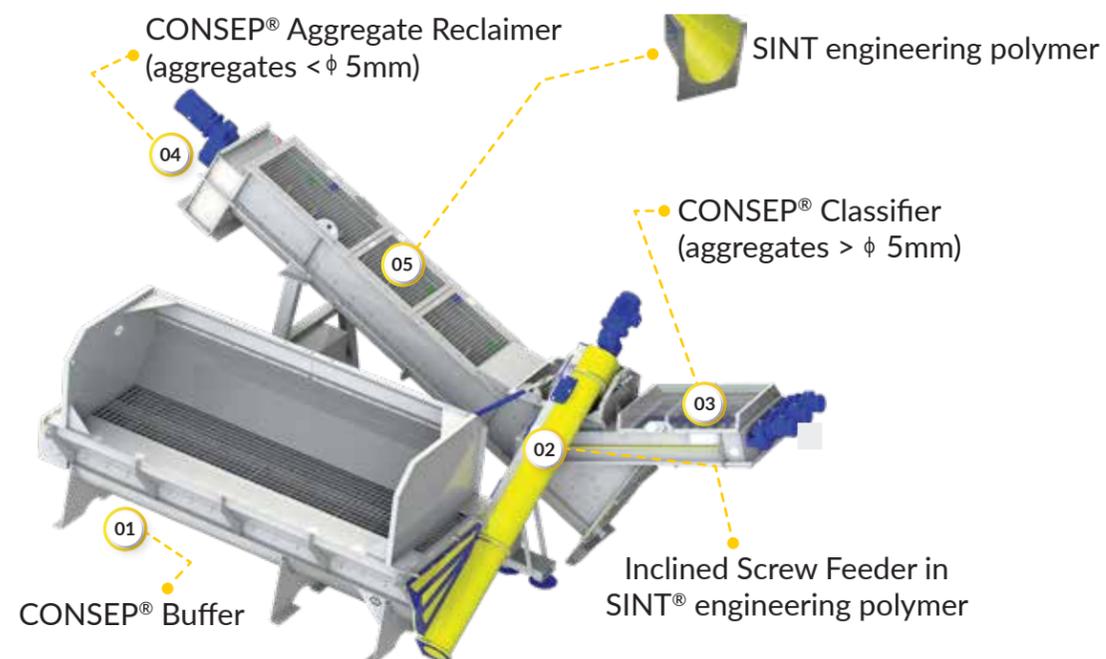
BENEFITS:

- ☑ Significant reduction of unloading and parking times
- ☑ Modular design offers great flexibility in configuration according to specific on-site requirements
- ☑ Automatic operation: user friendly (auto-on, auto-off + automatic cycle)
- ☑ Efficient and sustainable
 - ✓ Time- and cost-saving wash-out of the equipment
 - ✓ Savings in maintenance costs compared to simple sedimentation tanks
 - ✓ Savings in raw material purchasing costs and waste disposal
 - ✓ No costs for concrete demolition or for removal of concrete from the moulds

CONSEP® - The Most Versatile and Efficient Aggregate Separation and Recovery System

HOW IT WORKS

- ☑ Diluted concrete is discharged into the Buffer (1) where it is mixed with clear water.
The slurry is conveyed through a horizontal screw conveyor of the Buffer (1) into a patented Inclined Screw Feeder (2) entirely manufactured from SINT® engineering polymer, which transfers the slurry into the Classifier (3).
- ☑ The screen of the Classifier retains aggregates with a grain size larger than 5 mm. The aggregates are conveyed, washed with clear water, and finally discharged for reuse.
- ☑ The fine aggregates pass through the screen to Aggregate Reclaimer (-5), which separates and washes the sand from the finest particles, allowing the immediate use of the recovered sand for new concrete production.
- ☑ In this way, the aggregates are conveyed, washed with purified water and separated into their main components for reuse.



CONSEP® CSP: Medium-High Duty – Self-cleaning - low energy consumption

Suitable for treating concrete residues from simple washing.

PERFORMANCE AND INDICATIONS OF USE:

- ✓ 1 single receiving point (1 truck mixer)
- ✓ Ready-Mix concrete plants: typically 1 to 5 trucks mixer (washing only)
- ✓ Precast concrete plants: 5 m³ per hour of washing water
- ✓ Dirty water discharge into tank with agitator: suspended solids 8 ~ 10%; 0 ~ 1 mm
- ✓ 3kW drive unit



CONSEP® CSB, CSC: Heavy duty – fast truck mixers washing – aggregate recovery

Suitable for treating both residues from simple washing and returned concrete washed out from truck mixers

PERFORMANCE AND INDICATIONS OF USE

- Up to 2 receiving points (2 truck mixers at a time)
- Ready-Mix concrete plants: typically 10-12 truck mixers (washing only) or 3 truck mixers (washing out of residual concrete)
- Precast plants: 5 m³ per hour (washing out of residual concrete) 12 m³ per hour (washing of equipment only)
- Dirty water discharge into tank with agitator: suspended solids 8 ~ 10%; 0 ~ 0,2 mm
- Recovery of washed aggregates:
 - CSB: mixed aggregates (sand and gravel mixture 1 ~ 40 mm)
 - CSC: pre-sorted aggregates (sand 1 ~ 5 mm / gravel 6 ~ 40 mm)



BENEFITS:

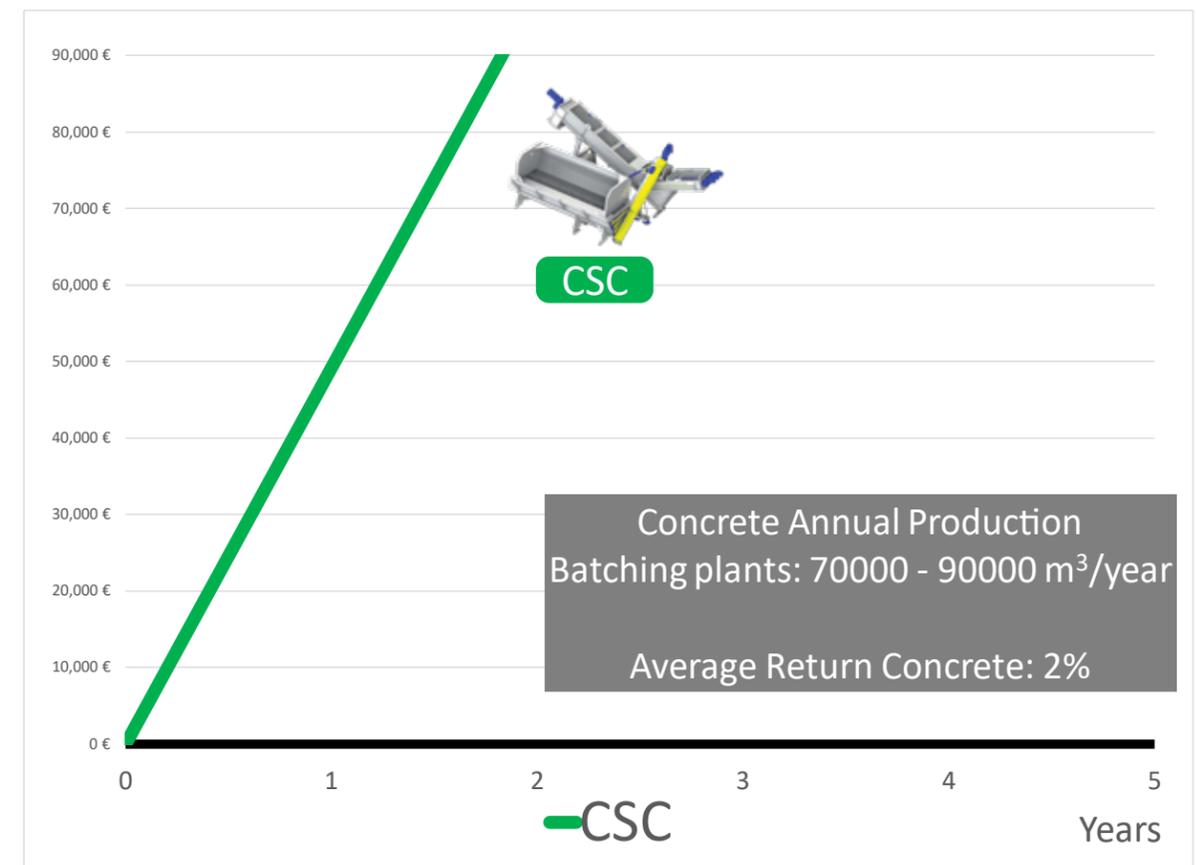
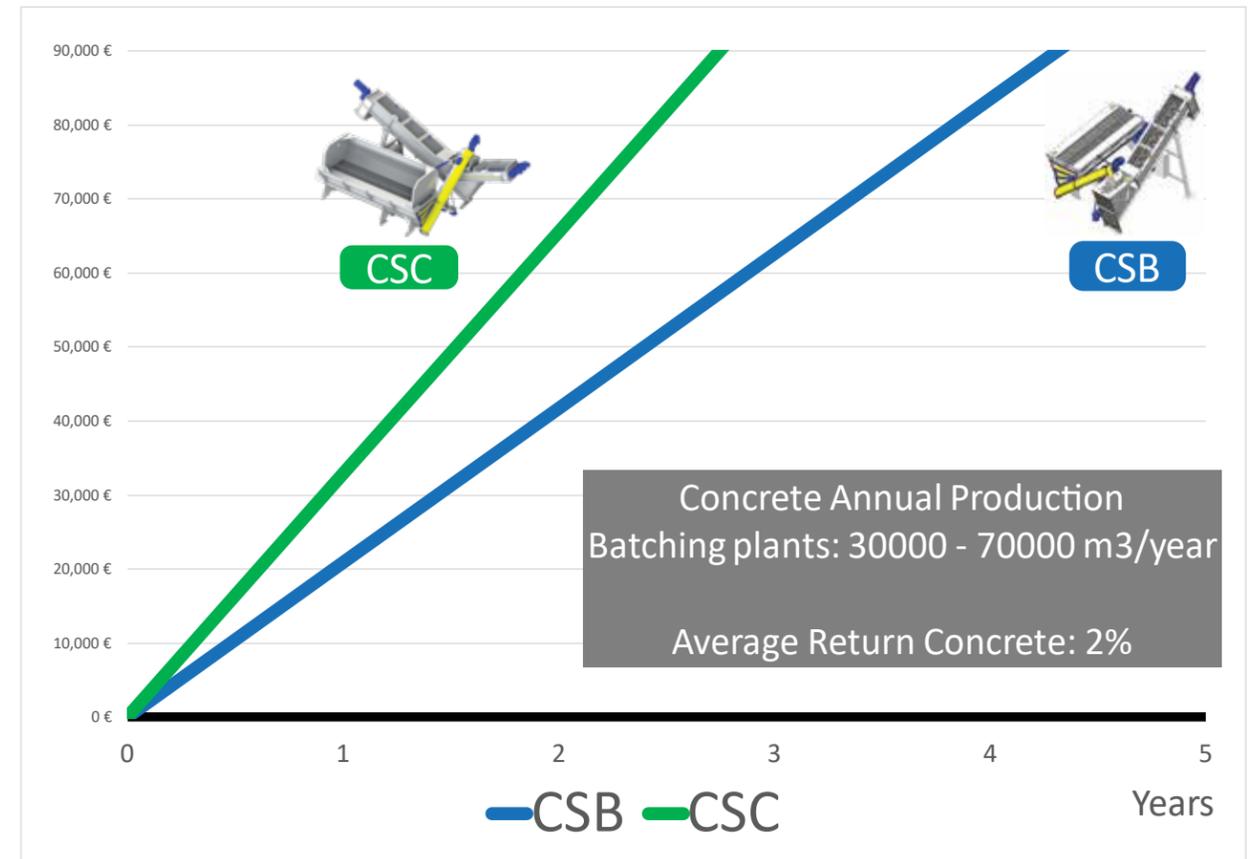
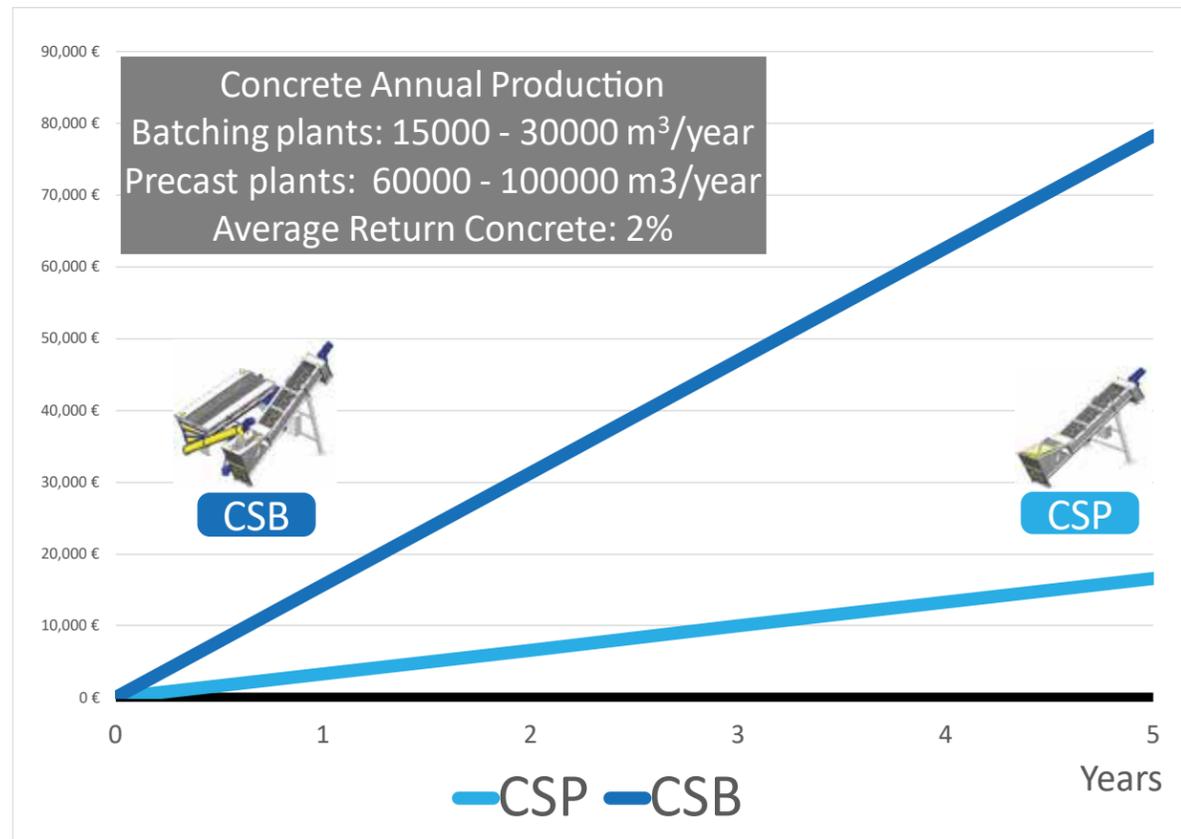
- ☑ Simplifies and shortens washing of equipment
- ☑ Savings on aggregates purchase (separated, washed aggregates can be reused)
- ☑ Eliminating costs for waste disposal and avoiding fines for safety personnel and plant operator
- ☑ Reduced machine maintenance thanks to patented engineering polymer components
- ☑ Reduced operating costs thanks to automatic machine operation
- ☑ Sustainable, more effective use of natural resources.

Performance that pays

Independent third-party testing has shown to what extent in terms of productivity and efficiency the new CONSEP® comply with customer needs. Here is an estimation of the costs saved with each variant of the CONSEP®.

* The estimates made are based on an average of 2% return concrete verified in the field during on-site testing.

CONSEP® Cost saving graphics



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“Our interest, and that of companies like ours,” says Enrico Manni, technical manager of Betonrossi, “is twofold: on the one hand, it is a question of making the process efficient and economical, and on the other, putting back into the work cycle products that have already been used, thus adhering to the principles of a circular economy and complying with the Minimum Environmental Criteria for access to public procurement.”

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“The project,” says Pietro Merlini, an expert in environmental law and circular economy, “is part of this line of research and innovation and comes to terms with the topics of sustainability and circularity in the economy. But the initiative has also another objective: the transferability of research activities. The technology will in fact be usable in any mining plant and will serve to optimise relations with concrete plants, which are the quarries’ main customers, and to enhance a resource that would otherwise be lost.”

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