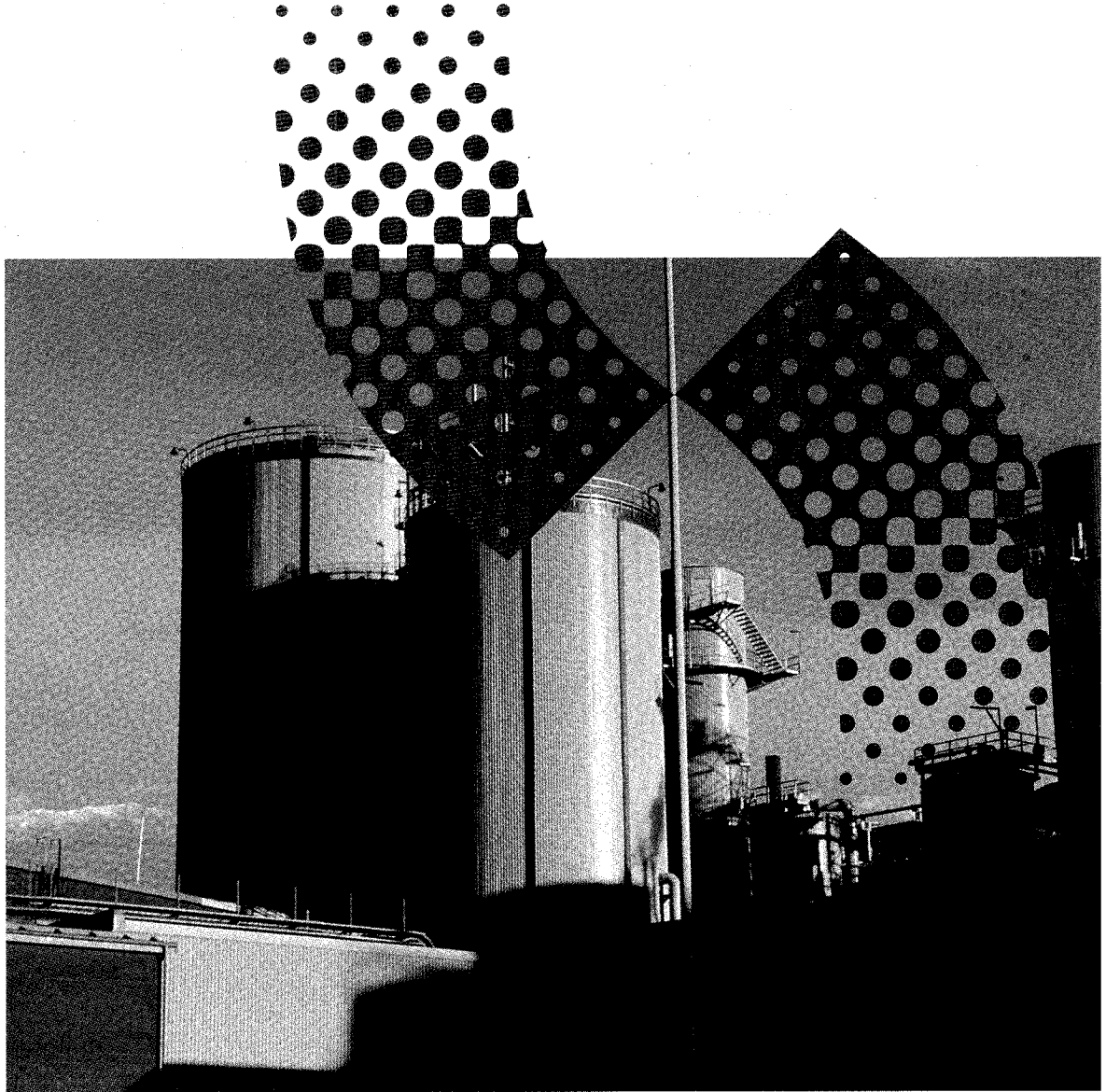


Automated Tank Cleaning Systems for the Pulp & Paper Industry



FAST CLEANING PROCEDURE
FEWER PERSONNEL INVOLVED
INCREASED PRODUCTION



800.654.5635
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Toftejorg



Toftejorg

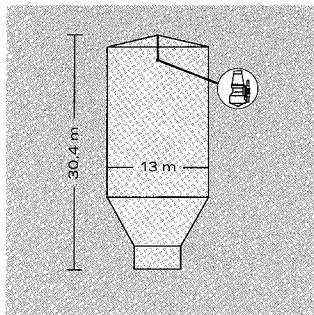
specializes in manufacturing equipment for the automatic interior cleaning of tanks, vessels and reactors used for storage, process and transportation. More than 40 years of experience of the marine, brewery, food and chemical industries has secured our position as the world's leading supplier of equipment and systems in this area.

Automated Fast Cleaning

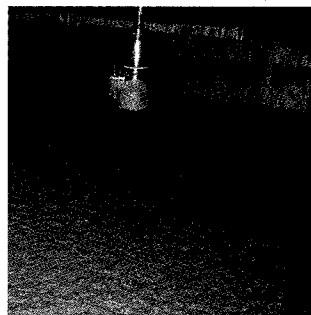
In the pulp & paper industry, all tanks and process systems need periodic cleaning to avoid complications in the manufacturing process. Up to now, most cleaning has been done by manual methods.

By applying Toftejorg Rotary Jet Heads, fixed installed inside the vessels and tanks, cleaning can now be performed in minutes rather than days. The Toftejorg rotary jet head provides 360° indexed impact cleaning over a defined time period. Applying this automated and rapid cleaning method means that the suspension of production most often can be avoided completely. No personnel are required to be inside the tanks during the cleaning process leaving them free to perform other activities. Consequently, the costs for the cleaning process are significantly reduced.

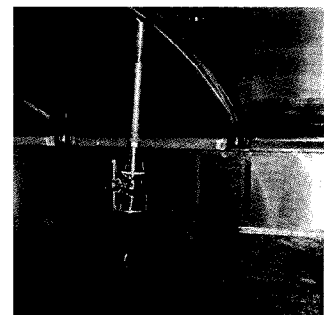
Tank



Dirty Tank



Clean Tank



Why spend hours cleaning this tank when it can be done in 17 minutes and, moreover, even while production continues?

New Operation Concept

Toftejorg's cleaning technology offers pulp & paper manufacturer the option of radically changing cleaning procedures.

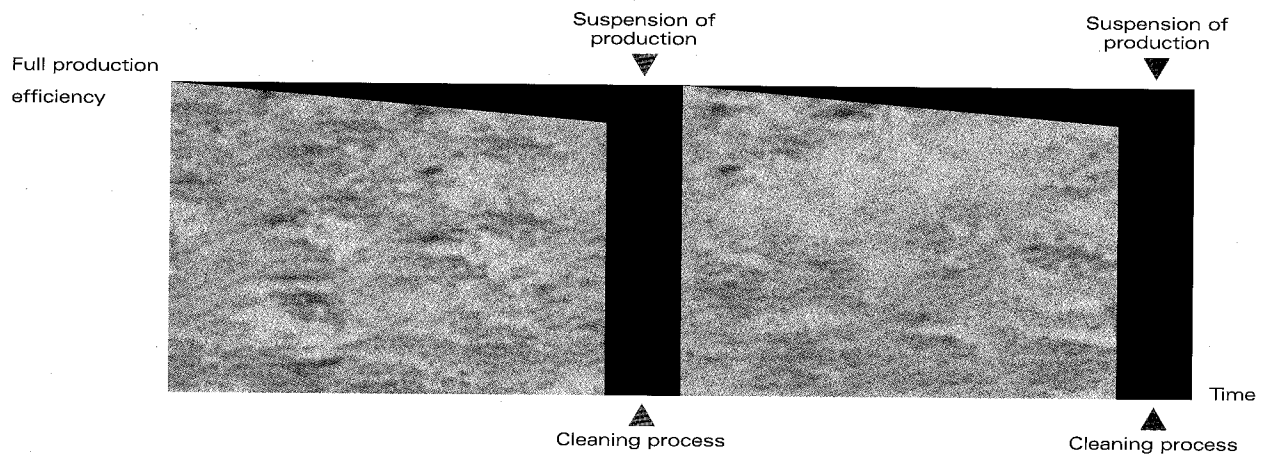
The use of manual cleaning methods means that production has to be suspended prior to entry into the tank in order to carry out the cleaning operation. The red areas in figure 1 indicate the gradual decrease in production efficiency and product quality and the total stop of production during the cleaning procedure.

A constant high level of product efficiency can be achieved by a frequent cleaning routine, which can only be achieved by using rotary jet heads, fixed installed in the tanks (figure 2).

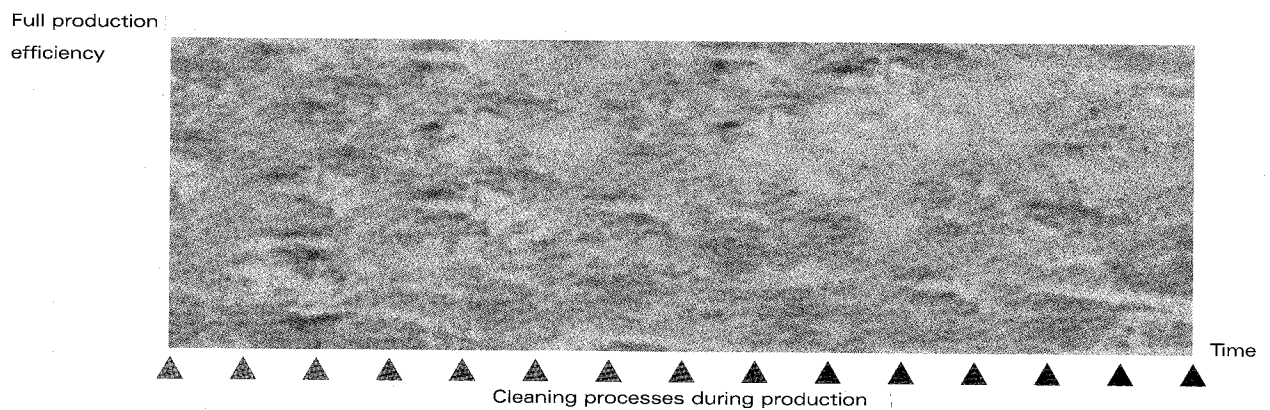
Benefits for the Pulp & Paper Manufacturer

- Fast cleaning
- Higher production efficiency, no down time
- Higher product quality standards
- No tank entry by personnel required
- Fewer personnel required for cleaning
- Reduced use of biocides
- Fewer environmental problems
- Moderate investment / short pay-back time

Manual Tank Cleaning Procedure - Figure 1



Automated Tank Cleaning Procedure - Figure 2



The use of this new cleaning operation concept makes it possible to change the cleaning procedure from a long cleaning period at extended intervals (Figure 1) to a short cleaning period at short intervals (Figure 2).

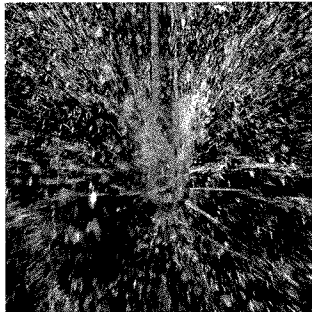
Hence, a considerable benefit is achieved by maintaining high, constant production efficiency (no production stop) while at the same time maintaining high product standards.

Optimizing Installation

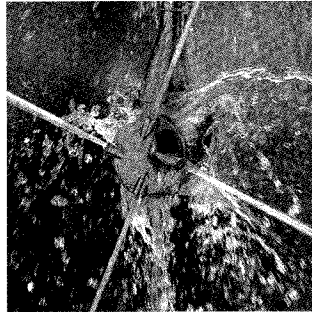
- Installation specifications
Based on actual tank dimensions, Toftejorg's technical staff provides CAD generated installation drawings with details of location, piping, and pressure/flow requirements, to ensure the correct installation.
- Process design
This includes process parameters and computerized simulation (TRAX®). This advanced software allows for the analysis of cleaning shadows and can generate individual patterns for the vessel concerned.
- Operational procedures
Based on our extensive experience, Toftejorg proposes optimum operational procedures
- Test verification.
Before taking any decision on installing a Toftejorg system, try it out yourself by borrowing a portable Toftejorg cleaning system, entirely free of charge.

Product Program

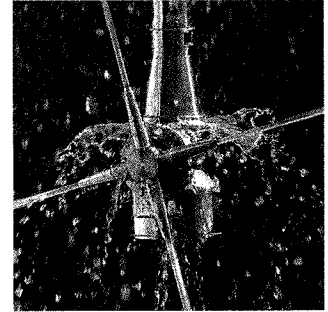
Product	Name of tank	Typical size		No of machines
		Diameter m	Height m	
Rotary Spray Heads				
Sani Midget	Disk Filters	2-3	4-8	3-6
Sani Magnum	Wire Chutes	2-3	2-4	2-4
Sani Mega	Colour Tanks	1-3	3-6	1-2
	Kaplin Tanks	1-3	3-6	1-2
Rotary Jet Heads				
TJ 20G	Mixing Tanks	3-6	4-6	1-2
TZ-74	Broke Pulp Tanks	2-4	5-10	1-2
SSSt 40	Wire Pits	1-5	1-2	1-2
	Medium Size	6-9	12-15	1-2
	Stock Chests			
	Pulp Towers	8-12	15-25	1-2
	High Density Stock Chests	6-10	10-20	
Rotary Jet Heads				
TZ-79	Large Stock Chests			1
SSSt 40				
MSt 50	Large White			
	Water Towers	6-12	15-30	1
	Large Pulp			
	Storage Towers			1



Rotary Spray Head
Sani Midget in operation



Rotary Jet Head
TJ 20G in operation



Rotary Jet Head
TZ-74 in operation

Information

For further information,
please ask your local
Toftejorg sales office
or representative for a
detailed proposal on
how you can use
Toftejorg equipment
to improve your
tank cleaning
operations.

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