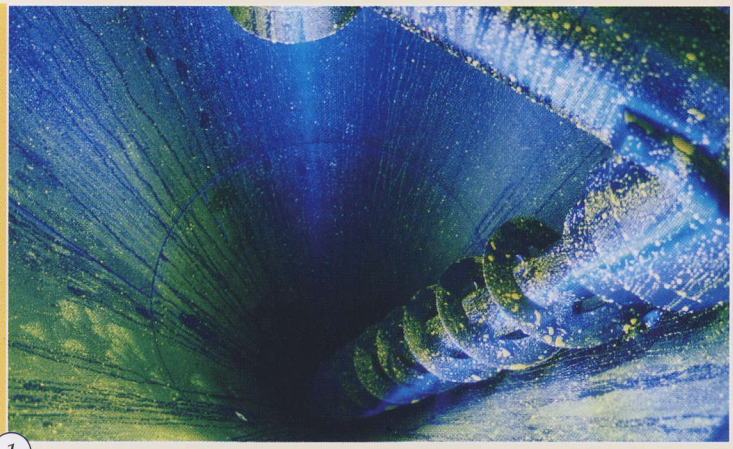
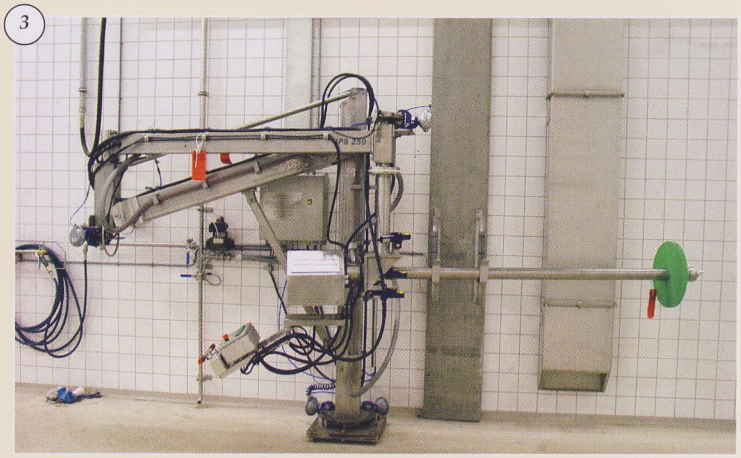
ContratEch Group



1

A video camera installed inside a tank keeps track of CyberjEt's® performance after the inner walls and bolts of the tank are sprayed with a fluorescent-sodium solution, riboflavin.

2



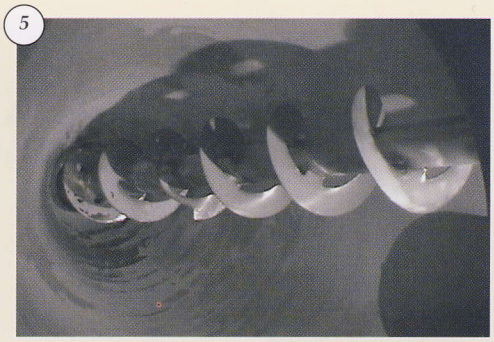
3

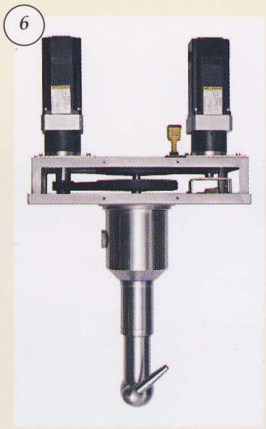
The CyberjEt®, more specifically "Robotised Cleaning In Place," is a validated tank-washing robot which saves 80 to 85% in cleaning agents.

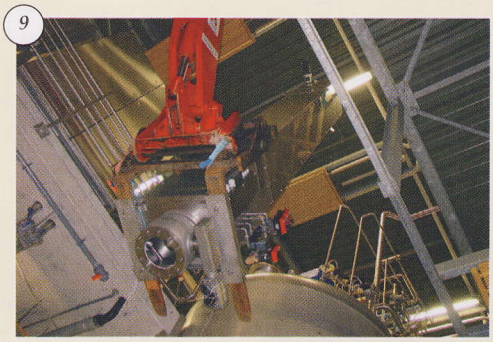
Worldwide, some tens of thousands of tanks of varying dimensions and for varying purposes are cleaned daily. That cleaning, often C.I.P (Cleaning In Place), is synonymous with using up vast amounts of water and chemicals. Some processes even take such long hours to accomplish that they are ultimately detrimental to the environment. Today, CyberjEt® offers a totally revolutionary turnabout in the area of cleaning.

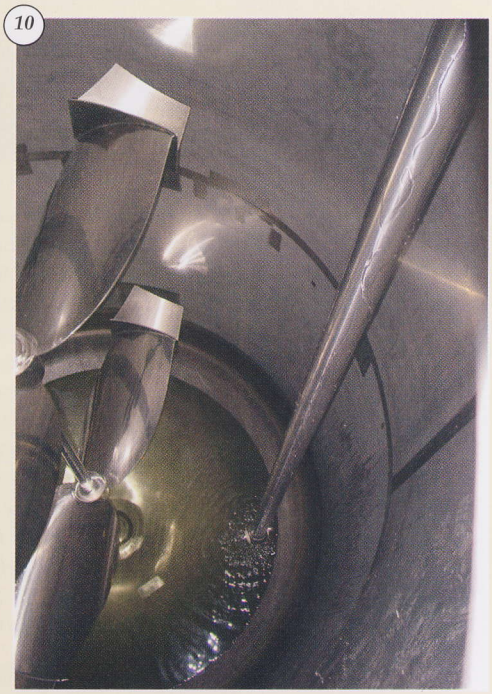
The CyberjEt® is the brainchild of D.G.F. Verbeek, Ir., who primarily studied the process of more economical chemical tanker washing in 1988 as assigned by the VROM (Ministry of Housing, Spatial Planning and the Environment) at the TU in Delft. Subsequently NOVEM (the Netherlands Agency for Energy and the Environment) participated in the first test machine which operated very successfully on a chemical tanker for more than $1\,^1/_2$ years. ContratEch® then took on the total concept on an exclusive basis, which also included construction and international commercial operations, and converted the machine into a fully-operable turnkey system. Apart from the CyberjEt®, ContratEch® also carries a line of famed process components, including the MDM and Perissinotto pumps, and supplies complete Turnkey systems such as the unique concept for Municipality Cleaning in Amsterdam (see photo 3). ContratEch® is a young, dynamic company founded in 1996 and which, after several years of "enormous commercial and private setbacks" is now booking market results worthy of the product.

The CyberjEt® concept is based on a number of stepped motors steered by an intelligent software programme devised to take account of such elements as tank shape and "pollution" type. The CyberjEt® is now also capable of cleaning parts of an object with more purposeful intensity – spot-









4 *Dryer, as it looks after production, with residues of active substance, prior to the CyberjEt® carrying out nitrogen-based product recovery.*

5 *Dryer/blender, as it looks after the CyberjEt's® 30-second process of flushing larger amounts of residue product with 3 barg nitrogen R.C.I.P.® procedure.*

6 *High pressure version with planetary gears, due to increased torque, greenhouse construction project with video recognition.*

7 *Client-specific design of CyberjEt® fully built in stainless steel 1.4435 on a Hosokawa blender, ready for use. Nowadays, a machine with a 4500 mm stroke can be supplied.*

8 *Checking tolerances after hot cleaning.*

9 *The company PAX installing the CSK machine.*

10 *Result after cleaning with only 10 barg and cold water.*

washing – and even allows for product recovery with nitrogen. The latter is a great success in the pharmaceutics industry and ensures a pay-back time of sometimes only 6 to 8 weeks (see photo 4 and 5). Also the option of finally having access to genuine validation (see photo 1 Riboflavin testing) opens many doors, in particular in the pharmaceutics and biotechnology industries.

The Robot was developed in collaboration with W.N.A Burggraaf, Ir. in compliance with EHEDG requirements and thus meets the most stringent standards of hygienic design.

■

Ir. D.G.F. Verbeek and J.M. Wijnveldt

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Technical Trading Consultancy and Innovations

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