HISTORY

Landustrie BV has been a pioneer in the technology of slow speed surface aerators since the 1960's. The LANDY-F impeller from Landustrie has been extensively tested and later certified for use in oxidation ditch systems by the Carrousel® patent holder, DHV Water BV. Hydraulic models were then developed from full-scale installations to predict the channel velocity given the basin dimensions, proper impeller selection, impeller submergence, and aerator horsepower. Using this hydraulic model, Landustrie has installed their LANDY-F impeller throughout the world. With over 500 surface aerator installations and their research and development program, Landustrie has established themselves as a leader in surface aeration technology.

RESEARCH AND DEVELOPMENT

Landustrie continues their effort to advance impeller technology since they first started over 40 years ago. Landustrie conducts research and development of surface aerators with the use of their 500,000-gallon test tank in Sneek, Netherlands pictured below. The experienced engineers at Landustrie have the ability to test the oxygen transfer efficiency, mixing efficiency, torque, vibration, axial forces, and radial forces. Landustrie has also been contracted by direct competitors to test other types of impellers over different operational ranges. Over the past six years, Landustrie has conducted several studies on their next generation LANDY-7 impeller. From their test tank data and full-scale testing at several wastewater treatment plants, Landustrie can officially document and guarantee the benefits of the new LANDY-7 impeller.

LANDY-7 BENEFITS

- INCREASED O.T.E. = 3.8 LB O₂/HP/HR
- INCREASED MIXING EFFICIENCY
- REDUCED AXIAL LOADS
- SIGNIFICANTLY REDUCED RADIAL LOADS
- REDUCED TORQUE LOADS
PLANT CASE STUDY

In 1997, for their hometown of Amersfoort, NL, DHV Water BV consulted to install a Carrousel™ TM 2000 oxidation ditch. After a successful bid against Hubert and Spaans, Landustrie provided (4) 132 kW LANDY-F surface aerators for this installation to meet the required oxygen demand. In a recent expansion of this wastewater plant, Amersfoort elected to duplicate the existing oxidation ditch and double the plant capacity. Based on their research, Landustrie proposed to meet the same oxygen demand as required before with (4) 110kW LANDY-7 surface aerators. In order to satisfy Amersfoort, Landustrie was required to provide a Performance Guarantee. The client and engineer performed the clean water oxygen transfer test on the LANDY-7 aerators. The field-testing revealed that the LANDY-7 impellers provided the required amount of oxygen and concluded that the lower power units using the LANDY-7 aerator could provide the same amount of oxygen as the existing aerators that have more installed power. Amersfoort has been happy with their lower power cost, while achieving the same treatment.

LANDUSTRIE AND WESTECH ENGINEERING

WesTech Engineering has cooperated with Landustrie BV in a mutually beneficial license agreement since 1996. The experience, research, and development of surface aerator technology have been transferred to WesTech to complement our environmental and process solutions already offered here in the United States since 1973. WesTech has supplied process calculations, oxidation ditch designs, hydraulic model information, and surface aerators for over 30 USA oxidation ditch installations. Based on the latest research and testing by Landustrie, WesTech will now promote the certified benefits of the LANDY-7 impeller. Existing treatment plants have already begun to inquire about increasing their oxygen transfer efficiency simply by replacing their old impellers with the new LANDY-7.