WATER AND WASTEWATER

Hydroscrew introduced to SA

A new hydrodynamic screw has been introduced to the South African market by WAMGROUP, an internationally recognised specialist in the manufacture of screw conveyors and various bulk material handling and processing equipment.

HYDROSCREW IS manufactured by WAMGROUP's Italian sister company Roncuzzi and is an environmentally-friendly and cost-effective reversible volumetric machine designed for the production of electrical energy by converting hydro energy into mechanical energy. WAM South Africa general manager, Emilie Marchand, explains that the Hydroscrew is ideal for numerous applications, including the replacement of damaged water-wheels, clean water discharge in wastewater treatment plants, utilisation of water power in channels and for process water in paper and water milling applications.

"The operation of the machine is based on the difference in potential energy between two varying points in a water flow. Thanks to the drop from the highest point of its natural flow, the water is used by the rotor to transform the energy, before flowing back to its bed," she explains.

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"The Hydroscrew is fed by the weight of the water, which moves from top to bottom by force of gravity. The mechanical energy generated by the liquid moving the rotor is transformed into electric energy by a power generator, which is connected through a panel to the local power network."

Marchand notes that the Hydroscrew can be placed into a river or stream with a minimum decline of 1 m and a weir is built to divert water into the screw.

"While one single machine is able to produce up to 300 kW of renewable energy and can handle a head of up to 6 m and a flow rate of up to 7 000 ℓ/s, several machines can be combined to handle more water or higher heads" she continues. 3S

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