

# PUMPS TO PROTECT FARMLA

## TECHNICAL DETAILS

### Doan Ha:

Scope: Two concrete volute pumps

Head: up to 8.2 m

Flow rate: up to 100,000 m<sup>3</sup>/h

Efficiency: up to 88%



**Vietnam** – As the value of agricultural exports rose significantly beginning in the 1980s, Vietnam became the world's top exporter for black peppercorns and cashew nuts. In addition, the country ranks among the top 10 exporters of coffee, coconuts, rice, rubber, sweet potatoes, and tea. Agriculture is therefore not just an important part of the country's GDP, but also continues to be one of its most important employment sectors. However, with a total annual precipitation of some 640 billion m<sup>3</sup>, Vietnam is one of the rainiest countries on earth. This rainfall is not always distributed ideally over time and between regions. Heavy incessant rain has resulted in rivers and

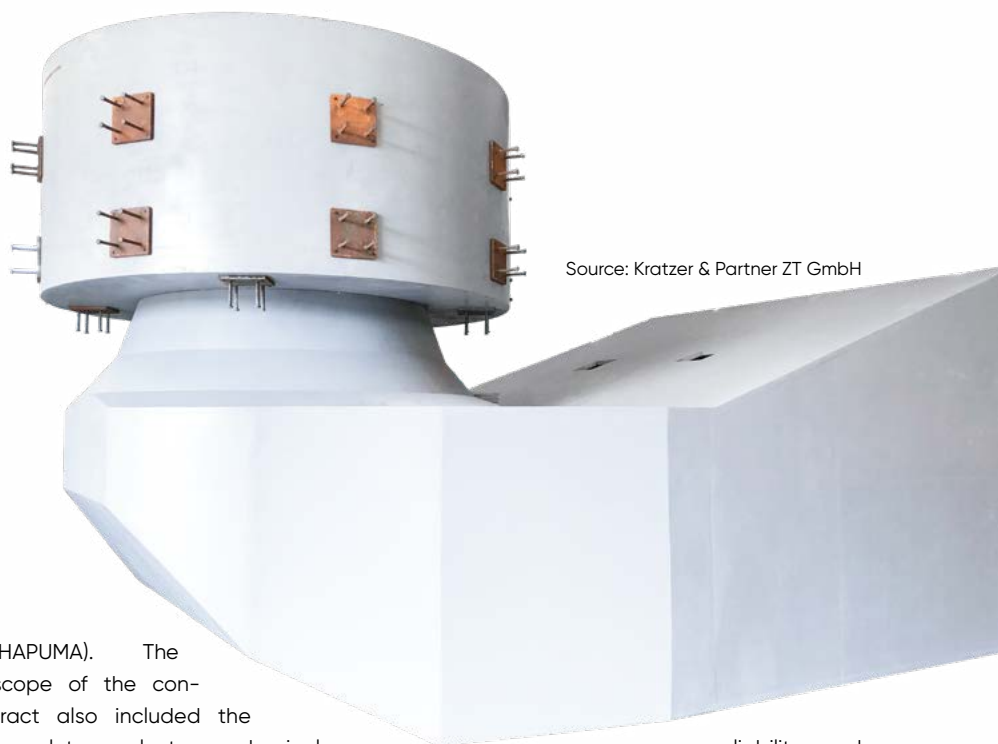
streams bursting their banks, regularly causing flooding, and damaging agricultural productivity. Climate change is making this situation continually worse.

As a result, different strategies have been developed in the past few decades to deal with not only these challenges, but also with the dynamic economic growth in the water sector. In addition to refurbishment and expansion of existing irrigation systems, these strategies also include building flood protection systems. Among them is the pumping system in the Thanh Thuy district of Phu Tho Province, situated in the north-eastern part of the country. The most important industry in the region is the cultivation of tea, producing about 100,000 t per annum.





# ND



Source: Kratzer &amp; Partner ZT GmbH

In order to increase productivity and crop yield, improve living standards and the environment, and reduce poverty in the region, a new pumping station was built. The Doan Ha station has the capacity to reliably irrigate up to 672,000 m<sup>2</sup> of paddy land creating the infrastructure needed for the formation of large fields. In addition to irrigation, the two pumps installed in the station can also drain up to 2,122,000 m<sup>2</sup> of agricultural land if necessary.

In 2018, after equipping the largest flood protection plant in Vietnam – Yen Nghia, near Hanoi – with 10 vertical line shaft pumps, ANDRITZ was awarded the contract to supply two concrete volute pumps in a joint venture with a Vietnamese partner, Haiduong Pump Manufacturing JSC

(HAPUMA). The scope of the contract also included the complete electro-mechanical equipment for the Doan Ha pumping station.

The pumps were designed especially for this project. Each has a 1,000 kW motor and achieves a rated flow of 12.5 m<sup>3</sup> per second. The pumps reach an efficiency of up to 88%, while the motors can achieve efficiencies of up to 96% at 100% output.

The pumps transport rainwater, river water and contaminated flood water, for example. Both pump-motor units are also equipped with a fully automated monitoring and control system to ensure highest

reliability and round-the-clock operational readiness. The pumps and their components are designed to achieve more than 70,000 operating hours.

The commissioning and start-up of both units was successfully completed in 2021. Since then both units have continued to meet all customer expectations and make a significant contribution to securing productive farmland in Vietnam.

#### AUTHORS

Klara Gölles  
Alois Bacher  
[hydronews@andritz.com](mailto:hydronews@andritz.com)

