

# Turbine-Driven Auxiliary Feedwater Pump (TDAFW)

Hayward Tyler, in partnership with Coffin Turbo Pump, Inc., is pleased to offer the proven model DEB turbine-driven feedwater pump for nuclear safety-related applications in pressurized water reactors. Hayward Tyler combines its 40 years of experience in engineering and delivering pumps for nuclear applications with Coffin's 90 years of development of steam-turbine-driven pumps.

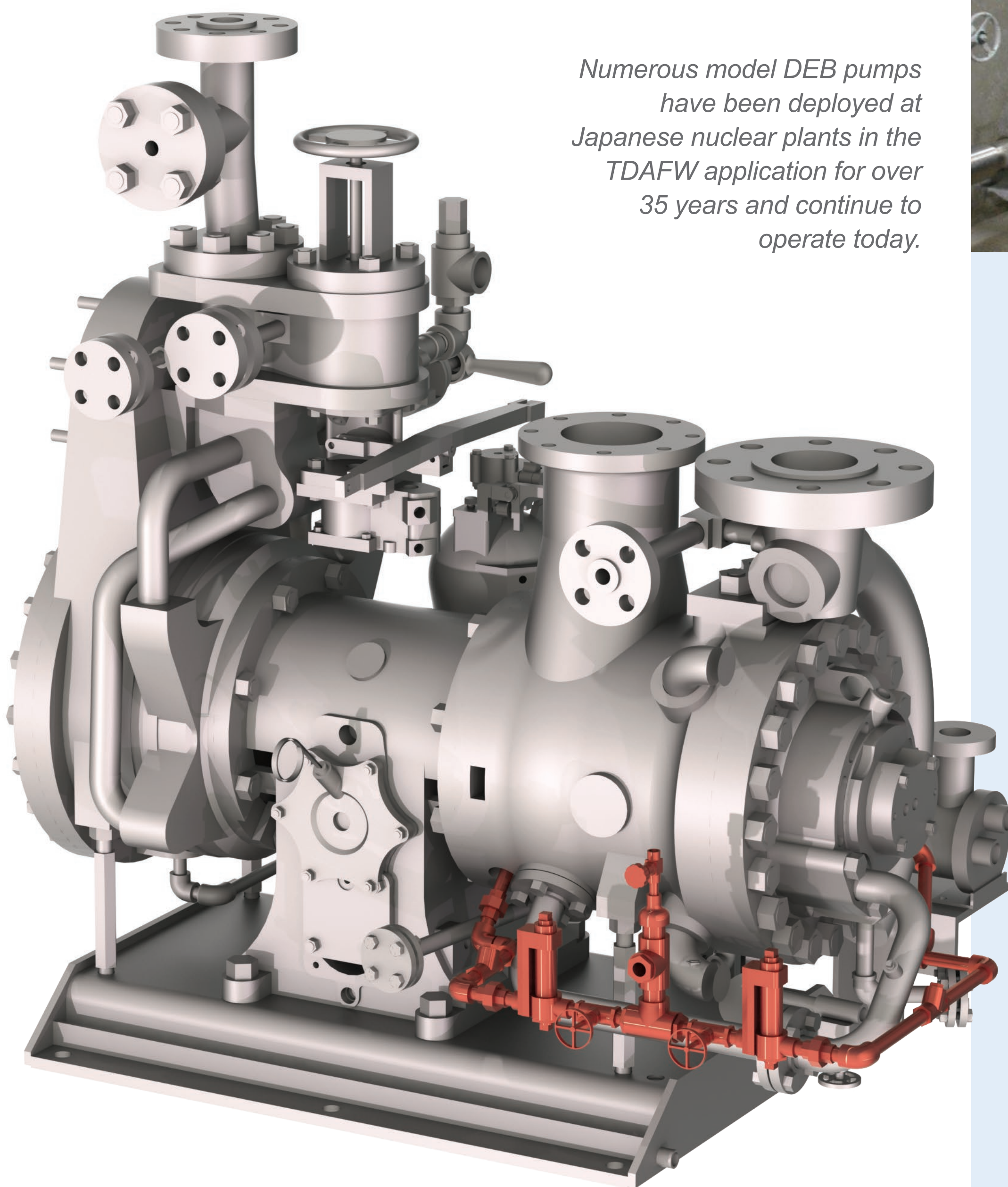
The TDAFW pump is a robust, single-shaft design that does not have couplings and does not require field alignments. Its very short rotor length results in a rigid shaft needed to support cold start capability. It is a significant upgrade in terms of simplicity, economy, and reliability when compared with existing, installed equipment.

The TDAFW pump is capable of supplying feedwater to the steam generators without an AC power source. It is designed for a cold start in emergency situations, and it meets a wide range of performance requirements during the 72-hour shutdown process.

All major components (including pump, turbine and control system) are manufactured by a single OEM rather than an integrated solution featuring main components from multiple vendors. Hayward Tyler provides a single point of support for this safety-related application.

A training facility, featuring a training unit for basic pump maintenance, troubleshooting, and disassembly/assembly activities, is located in the USA.

*Numerous model DEB pumps have been deployed at Japanese nuclear plants in the TDAFW application for over 35 years and continue to operate today.*



## KEY DESIGN FEATURES

- ASME Section III, Class 3 design provided by Hayward Tyler
- Start-up on steam admission
- Reliable, single shaft design
- Thrust bearing for axial loads in both directions
- Shaft-driven oil lubrication system
- Integral control and speed-limiting governor system
- Governor, control and lubrication systems are self-contained on the unit
- Small installation and service footprint