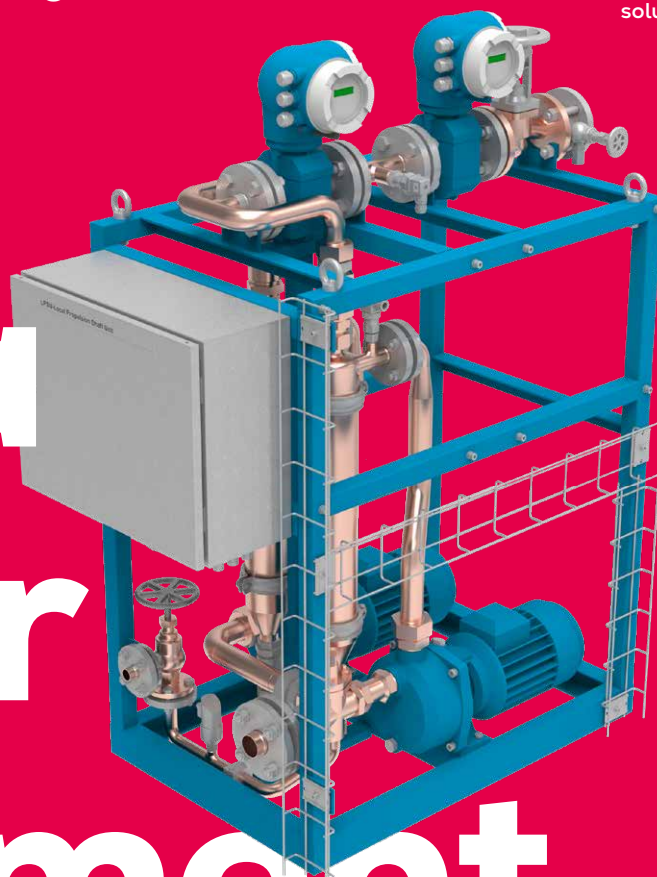


Alpha Water Treatment



The Alpha Water Treatment (AWT) unit is designed to clean and maintain the quality of the water used as lubricant and cooling medium in the water-lubricated bearings. The AWT comes in a modular design for 1, 2 or 3 individually controlled outlets, with flow monitoring for each outlet.

The Local Propulsion Shaft Unit (LPSU) monitors and controls the cooling flow for the water-lubricated bearings. For plants with Alphasonic 3000 PCS, the Propulsion Control Panels can display the relevant parameters.

Benefits at a glance

- Small dimensions and minimal footprint for easy installation and accessibility
- Meets all the requirements from classification societies and bearing manufacturers
- All installed valves can be operated from the front of the unit
- Flow monitoring of each outlet, plus a common flow monitor effectively functioning as a redundant monitor through logic operations
- Maintenance-free hydrocyclone separators
- CU90Ni10Fe alloy piping
- Connection to external water supply (emergency pump)
- Ready for online monitoring with PrimeServ Assist.

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Alpha Water Treatment

AWT units for water-lubricated stern tubes and bearings – increase lubrication quality, safety and system lifetime.

Classification society notations

The AWT fulfills the requirements for all class notations for propeller shaft monitoring, thus extending time between overhauls and adding extra safety to the propeller shaft system. The class notations include – but are not limited to:

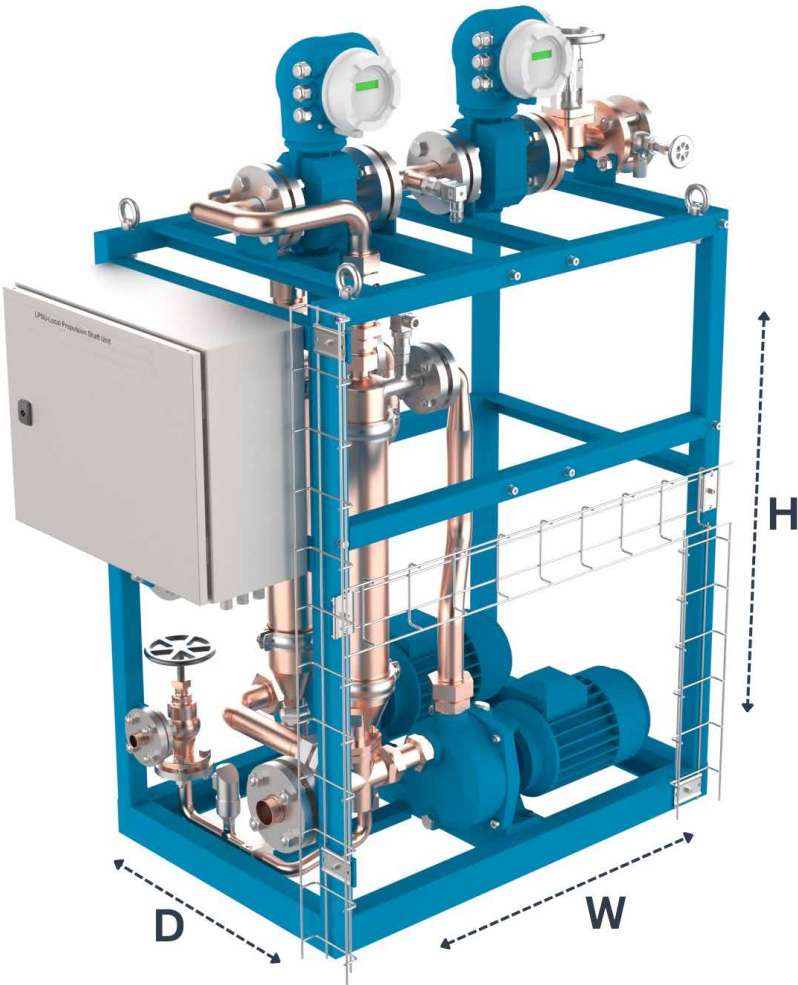
Classification	Notation
	TCM-W
	ShipRight SCM
	TMON
	MON-SHAFT

Water filtration and quality

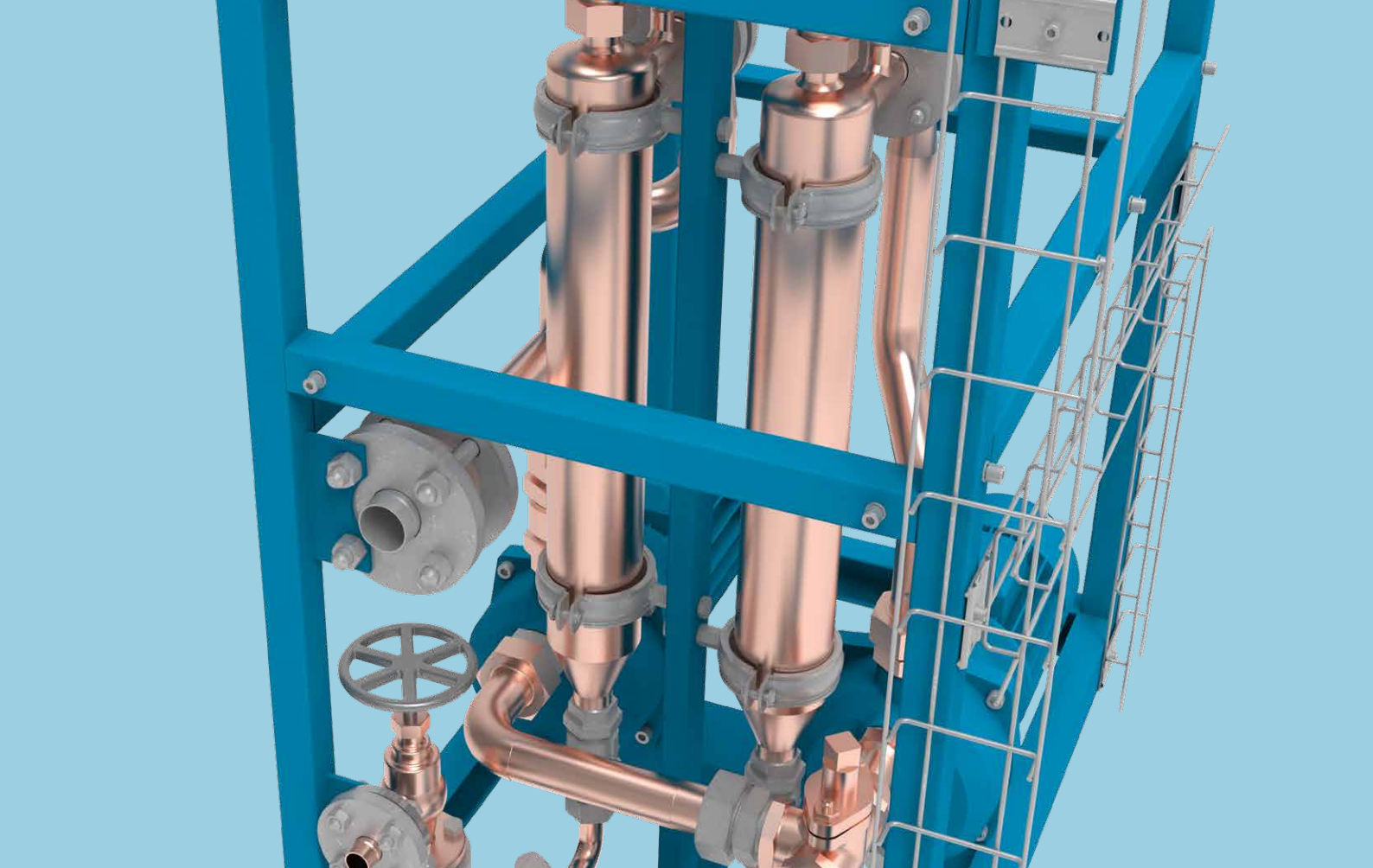
The AWT delivers a high degree of water filtration and removes solid particles with sizes as small as 80 microns.

AWT unit types and dimensions

The AWT is made in-house and produced in four different sizes, depending on the required water flow.



Main dimensions	H	W	D	Mass
Unit type and size	mm	mm	mm	[dry] kg
AWT05	1,450	1,450	814	375
AWT10	1,450	1,450	814	390
AWT20	1,483	1,296	1,014	580
AWT30	1,850	1,410	1,244	690



Reduced bearing wear

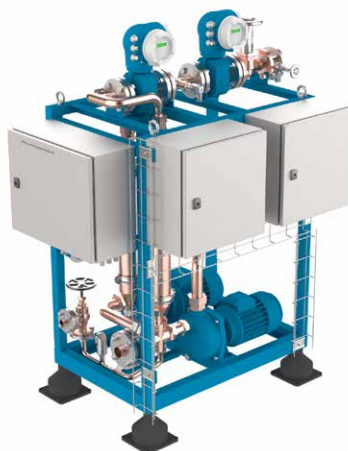
In open water-lubricated bearing systems, the main cause of wear is the presence of sand in the flushing water that flows through the system. This typically occurs when operating in shallow water or sandy rivers.

The grains of sand are much larger than the water wedge that is supposed to lubricate the bearings and shaft. While a conventional coarse strainer may allow these sand particles to pass through without hindrance, a strainer or filter with smaller openings may get clogged easily.

Additionally, as a strainer collects dirt, it reduces the water flow. A major drawback of using strainers is that they must be regularly checked and cleaned to prevent blockages in the water flow.

Hydrocyclone separator

The AWT unit uses centrifugal forces to separate solids from liquids using a hydrocyclone separator. The raw unfiltered water enters the hydrocyclone separator at high velocity. The water then swirls around in the chamber, forcing heavier particles towards the outer wall and eventually expelling them at the bottom. Meanwhile, lighter particles or fluids exit through the top.



Optional AWT unit with shock absorbers

AWT unit options

Alpha Water Treatment is suitable for both single- and twin-screw vessels.

Tailored motor starters can be included as an option. These can either be installed directly on the AWT or nearby for easy access.

For vessels with shock requirements, shock absorbers and flexible pipe connections will be included.

Transmitters monitoring bearing wear are connected to the LPSU to enable live parameter visualization in the Propulsion Control Panels as well as efficient planning for the bearings' service and overhaul.

The Alpha Water Treatment unit includes a comprehensive monitoring system, ready for online monitoring with PrimeServ Assist.

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MAN Energy Solutions SE has been renamed to Everllence SE and its products are being rebranded from "MAN" and/or "MAN Energy Solutions" to "Everllence". As this is an on-going process, any reference to "MAN" and/or "MAN Energy Solutions" is actually a reference to "Everllence". All data provided in this document is non-binding. This data serves informational purposes only and is not guaranteed in any way. Depending on the subsequent specific individual projects, the relevant data may be subject to changes and will be assessed and determined individually for each project. This will depend on the particular characteristics of each individual project, especially specific site and operational conditions.

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