



Twin Disc provides single-source support for Sanmar Shipyards.

One of the world's leading tugboat builders expanded its portfolio with vessels featuring Twin Disc transmissions and controls—gaining excellent maneuverability as well as single-source convenience.



<b>Vessel:</b>	Bozçay RAport 1900SX (six tugs)
<b>Shipyard:</b>	Sanmar Shipyards
<b>Agent:</b>	AMAT Engineering
<b>Designer:</b>	Robert Allan Ltd.
<b>Transmission:</b>	Twin Disc <a href="#">MGX-5321DC Transmission with QuickShift</a>
<b>Electronic Controls:</b>	Twin Disc <a href="#">EC300 Electronic Controls</a>
<b>Location:</b>	Istanbul, Turkey
<b>Application:</b>	Tug and Workboats



### Situation

Since its founding in 1976, Sanmar Shipyards has steadily increased the number of tug and workboats built each year, with more than 200 currently in service worldwide.

### Implication/Problem

The firm sought to offer a new tugboat option designed for high performance at a competitive price. Robert Allan Ltd. designed the Bozçay class of compact tugs to address the challenges of modern line-handling and smaller ship-handling tugs. All components must promote maneuverability and stability, with an emphasis on efficiency, reliability and ease of maintenance.

### Solution

Sanmar introduced the Bozçay RAport 1900SX, a steel twin screw harbor tug with an increased beam for better stability. AMAT Engineering worked with Sanmar in selecting the Twin Disc MGX-5321DC transmission, as well as EC300 electronic propulsion control, for six new vessels.

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Hakan Tunç  
Naval architect and marine engineer  
Sanmar Shipyards

### Results

The RAport 1900SX is a safe, robust, seaworthy tug ideal for general harbor and coastal towing duties, meeting all international and Class standards for construction and stability. Sanmar appreciated Twin Disc's single-source convenience. "It's always good to have a complete package from one supplier," says Hakan Tunç, Sanmar naval architect and marine engineer. "Our shipyard and the end user deal with one company for startup, commissioning and service after the sale—eliminating the risk of interface issues."

The first vessel underwent sea trials in April 2020, with extra precautions in light of the coronavirus pandemic. "Having local support from AMAT Engineering and Twin Disc, from ordering to commissioning, is fantastic during this time of global travel restrictions," Tunç says.

He adds that Twin Disc controls delivered the expected enhanced maneuverability. "The system runs swiftly from astern to ahead, from idle to full throttle, living up to the name 'QuickShift.'"

The EC300 interfaces with all popular electronic engines and transmissions, including the revolutionary Twin Disc QuickShift® transmission, and is expandable to include Express Joystick System® stations. It includes active system monitoring, diagnostics and fault indication with event logging, and optional data display. The fly-by-wire concept behind the EC300 makes the system remarkably easy to install on a new boat or retrofit on an older one.

The MGX-5321DC transmission comes standard with:

- Vertical offset, nodular iron housing
- Electric GP-valve with manual override
- EC050 Profile module—interface for engagement signals
- Mounted oil cooler for raw water cooling
- Oil strainer and oil filter

Options include:

- SAE J617 housing no. 0
- Flexible coupling for 18" or 21" flywheel
- Input flange for freestanding installation
- Mechanical control valve
- EC050 E-Troll module—interface for engagement & trolling signals
- Harness with single-point interface to Twin Disc EC300 control system
- Oil cooler for fresh water cooling
- Output shaft driven trailing pump
- Companion flange/bolts set
- Special companion flange/bolts set for shaft brake application