

**UZMAR<sup>®</sup>**



**Z-TECH TUGBOAT**

**Z-TECH 2400**



# QUALITY BEYOND EXPECTATIONS

Z-TECH 2400 TUGBOAT

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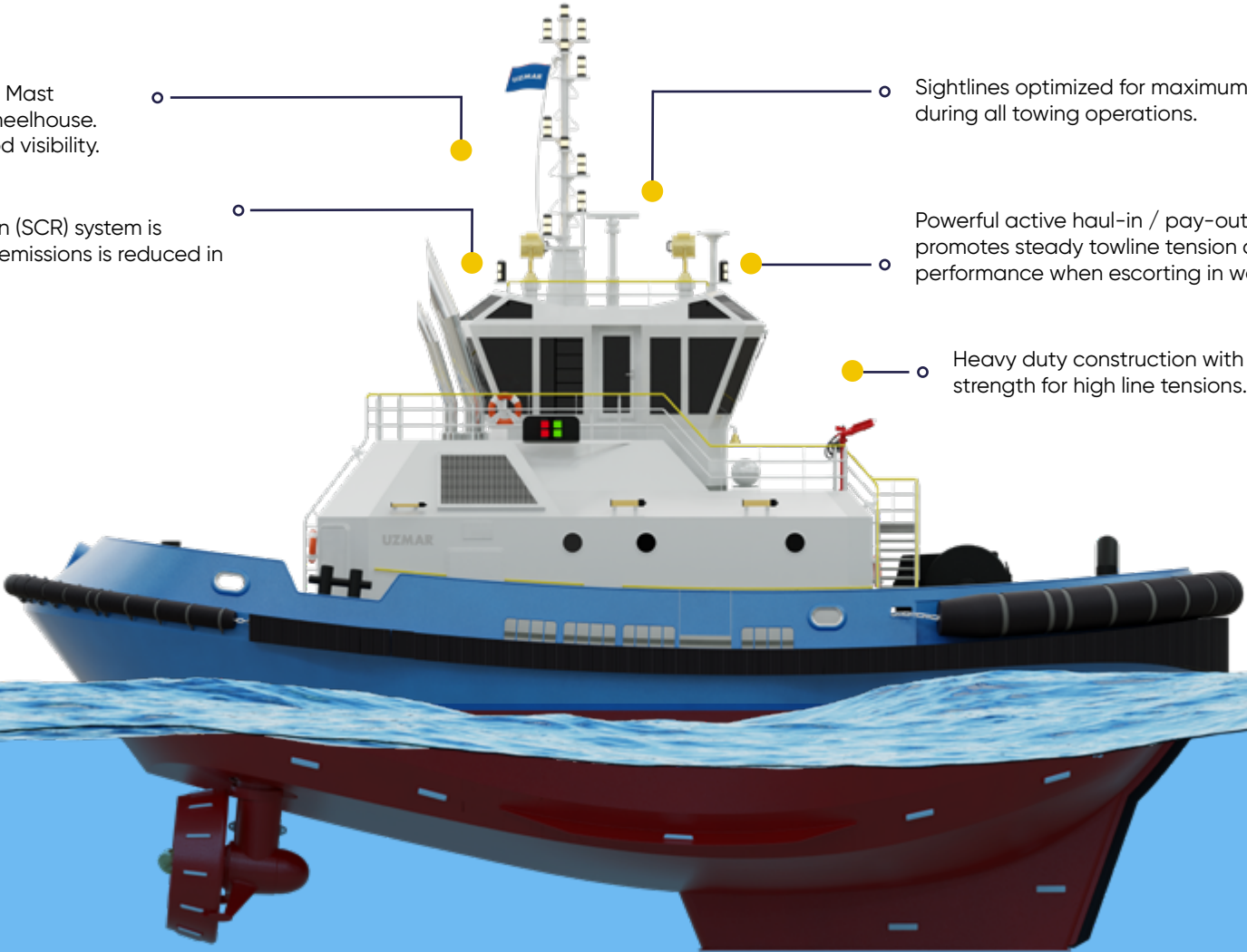
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|                           |                                                    |
|---------------------------|----------------------------------------------------|
| LOA                       | : 24.4 m                                           |
| BEAM                      | : 11.7 m                                           |
| DRAUGHT, MAX              | : 4.8 m (depends on propeller dia)                 |
| MAX. SPEED                | : 13.00 knots                                      |
| BP, MAX                   | : 70.00 ton                                        |
| MAIN ENGINES              | : 2 x 2200 kW                                      |
| PROPULSION                | : Up to 2800mm diameter FP or CP Azimuth Thrusters |
| GENERATOR                 | : Min. 2 x 88 ekW (based on load analysis)         |
| FIRE FIGHTING             | : FiFi 1 with Main engine driven pump              |
| ACCOMMODATION             | : Up to 6 persons                                  |
| GROSS TONNAGE             | : <400                                             |
| FUEL CAPACITY (m³)        | : 130                                              |
| FRESH WATER CAPACITY (m³) | : 24                                               |
| GMDSS                     | : A1 – A2 – A3                                     |



Hydraulic Actuated Foldable Mast  
Mast Shall be folded from wheelhouse.  
LED navigation lights for good visibility.

IMO TIER III Tug Boat  
Selective Catalytic Reduction (SCR) system is  
equipped in this vessel. NOx emissions is reduced in  
exhaust gas.



Sightlines optimized for maximum visibility  
during all towing operations.

Powerful active haul-in / pay-out escort winch  
promotes steady towline tension and high vessel  
performance when escorting in waves.

Heavy duty construction with ample  
strength for high line tensions.

### Features:

Offers combined best performance characteristics of Z-Tractor and ASD tugs.  
Emphasizes safe and capable ship-handling with large ships.  
Maximum efficiency for both ship-handling and towing operations.

# BEYOND EXPECTATIONS

Z-TECH 2400 ASD Class tugboat is twin Z-drive, high speed diesel-powered terminal support/escort tug designed for maximum efficiency in the performance of ship-handling duties for tankers, bulk carriers, container ships and related terminal support duties.

The design is based on an intended operation with a high standard of machinery automation.

Though the layouts are developed to match the most commonly acceptable manning standards, the accommodation can be adapted to meet any compatible requirement.

This state of the art tug is capable of safely performing all kinds of ship-handling operations, including berthing, unberthing, and escort duties even in extreme weather conditions.

The tug is also fully equipped for terminal standby roles with a Fi-Fi 1 external fire-fighting system, and a towing equipment package suitable for rescue towing missions.



# INNOVATIVE DESIGN

The forward deck (over the skeg) has a low, flat sheer, creating a spacious, relatively flat and safe working deck, without any obstructive anchor chains etc.

The aft deck (over the Z-drives) is reduced in size to provide just sufficient space to install or withdraw the Z-drive units. A small anchor winch is fitted on this deck, for one or two anchors (or none) as required.

Only one winch is required for both harbour and coastal towing operations. When towing long distances, the tug will simply tow in tractor mode going “astern”. In practise this is most likely to be a double-drum winch, with one drum carrying a synthetic hawser, and the other fitted with steel wire rope.

The low sheer forward, coupled with the aft bias of the deckhouse and wheelhouse enable the Z-Tech design to work under large overhanging ship flares.

A single control station serves both harbour ship-handling duties, (facing forward over the working deck), and transiting voyages, (facing “astern”).



# EFFICIENCY, VERSATILITY AND **SAFE OPERATION**

The forward deck has a low flat sheer, creating a spacious, relatively flat and safe working deck in comparison to a typical ASD layout, without any obstructive anchor chains etc. The entire working deck is immediately in front of and directly visible from the wheelhouse.

The deckhouse and wheelhouse are biased aft in the arrangement, which, coupled with the low sheer forward, enable a Z-Tech to work safely under large overhanging ship flares.

For 'sea-going' operations, the Z-Tech is meant to run astern in tractor mode, so the shape of this part of the hull is much more rounded in plan than would typically be seen in other ASD designs. The sheer aft is raised to provide a decent height when in a seaway.

Only one winch is required for both harbour and short haul or near-coastal towing operations. When towing, the Z-Tech simply tows in tractor mode going 'astern'. This represents a very significant reduction in capital costs.



# INTERNATIONAL **RED-DOT** DESIGN AWARD

Most "awarded" tug design ever.

"Best of Best" offers combined best performance characteristics of Z-Tractor and ASD tugs. Emphasizes safe and capable ship-handling with large ships.





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## UZMAR GEMİ İNŞA SAN. VE TİC. A.Ş.

Kocaeli Serbest Bölgesi Sepetlipınar SB Mah.  
102. Cad. No:14-16 41090 Başiskele, Kocaeli, Türkiye  
Phone : +90 (262) 341 45 10 (pbx)  
Fax : +90 (262) 341 45 12  
E-Mail : info@uzmar.net  
Web : www.uzmar.com

## İSTANBUL OFFICE

Soğanlık Yeni Mah. Balıkesir Sok. Uprise Elite  
Residence K:37 D:306 Kartal, İstanbul / Türkiye  
Phone : +90 (216) 405 21 01 (pbx)  
Fax : +90 (216) 405 21 04  
E-Mail : sales@uzmar.net  
Web : www.uzmar.com