



DAMEN ASD TUG 2810

DAMEN



PROVEN TECHNOLOGY

MORE THAN 170 ASD TUGS 2810 SOLD

Designed for towing, pushing, push-pull, escorting, berthing, fire fighting, salvage and pollution control in all waters.

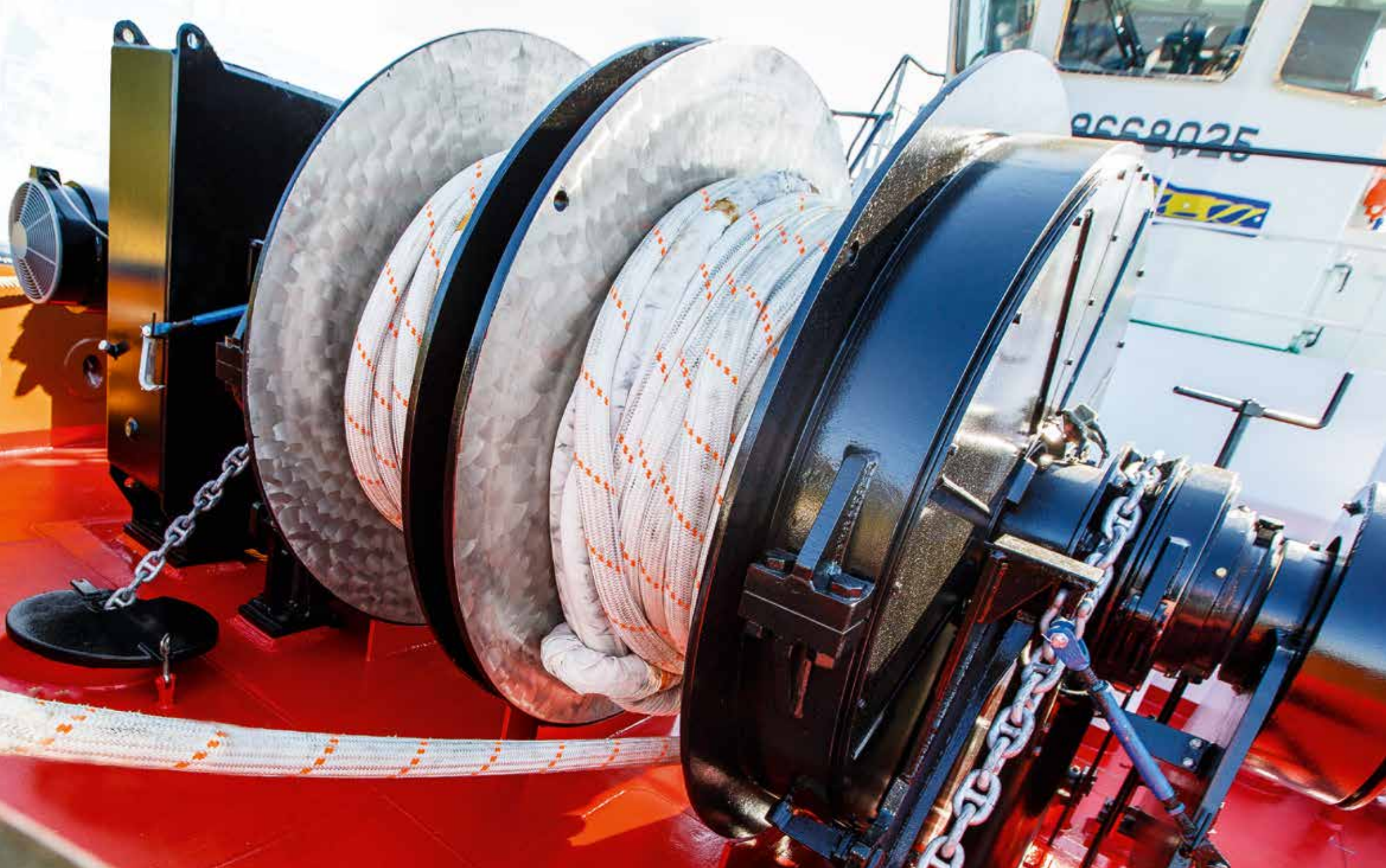




WHEREVER YOU ARE, YOU'LL FIND THE DAMEN ASD TUG 2810

This powerful tug is the ultimate ship-handling tool. The Damen ASD Tug 2810 operates all over the world – from Genoa to St.Petersburg, from Panama to Namibia...The Damen Standard allows the vessel to operate comfortably in temperatures of + 45 degrees down to - 35 degrees Celcius.





TWO ROPES FOR EXTRA SAFETY, THERE IS ALWAYS ONE ON STANDBY

The Damen Standard ASD Tug 2810 is fitted with a hydraulically driven winch, while the Damen Hybrid is electrically driven.



THE WHEELHOUSE – EVERYTHING AT YOUR FINGERTIPS OR EVEN YOUR TOES



1 For easy cleaning and easy painting, there are no sharp edges.

2 FiFi 1 remote controlled monitors.

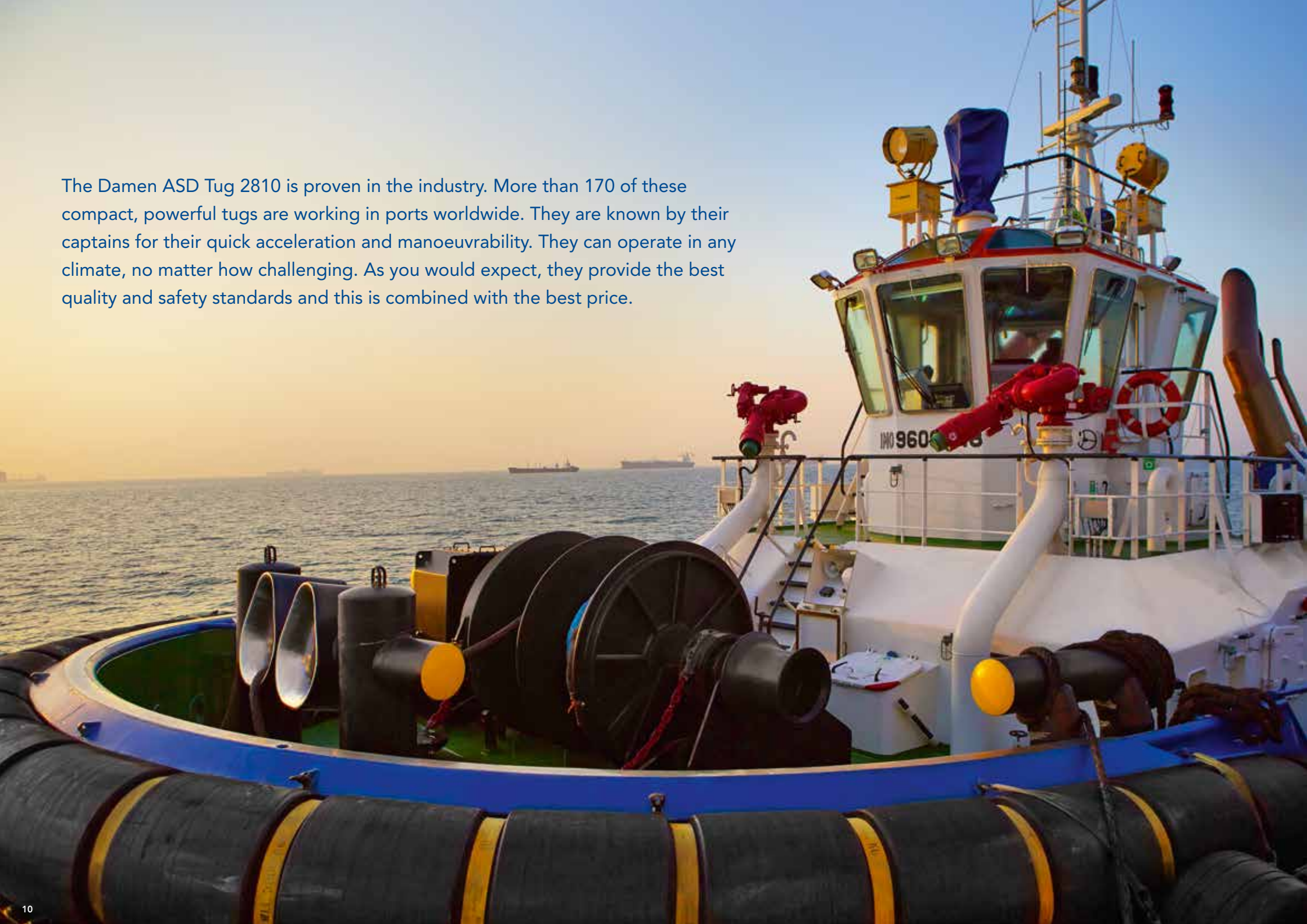
3 All component parts are rounded and stainless steel is used throughout.



ABSOLUTE MANOEUVRABILITY PURE POWER IN A COMPACT HULL



The Damen ASD Tug 2810 is proven in the industry. More than 170 of these compact, powerful tugs are working in ports worldwide. They are known by their captains for their quick acceleration and manoeuvrability. They can operate in any climate, no matter how challenging. As you would expect, they provide the best quality and safety standards and this is combined with the best price.





1 High bow combined with heavy rubber fendering for optimum pushing performance.

2 The tumblehome is up to 40° with the wheelhouse leaning inward, which makes it ideal when working under the flare of container vessels.

3 Designed for ship handling. These extremely user-friendly tugs have a spacious foredeck with plenty of working space, making it much easier to handle the ropes from a large cargo vessel. The deck is obstacle free and with a 1.1 m bulwark, Damen is always thinking about safety – the industry standard is 10 cm shorter.

THE DAMEN ASD TUG 2810

HYBRID





THE ASD TUG 2810 HYBRID

30%

Average fuel savings of up to 30%

50%

Cuts local emissions by up to 50%



Optional battery pack enables full electric sailing for one hour



'Smart customisation' of the Standard possible



Solar panels to charge 24V emergency power



Green but commercially attractive too



QUALITY IS IN THE DETAIL

Naturally, decades of Damen R&D and experience has been channelled into the ASD Tug 2810 and full 3D engineering played a vital role in creating this superb design. The quality is in the details.

Our tug teams have often worked together for more than 25 years.

Tugs are in their blood.

HYBRID HIGHLIGHTS



BATTERY ROOM

A separate, air-conditioned Battery Room is provided for extra safety. In total, 140 Valence lithium-ion batteries with a total capacity of 240 kWh are installed.



MTU GENERATOR

The main MTU generator is Tier III. This 800 KVA clean generator helps realise lower fuel consumption and lower emissions. A special Urea after-treatment facilitates further cuts in emissions.



SOLAR PANELS

Solar panels are fitted on the deckhouse to charge the 24V battery packs for emergency power.



ASD TUG 2810 HYBRID

The state-of-the-art Damen ASD Tug 2810 HYBRID is developed to save fuel by 30% and to reduce emissions by 50%. Fully electric, 100% silent and clean, with the possibility of sailing on two 230 kW ABB electric motors for one hour.



E3 PRINCIPLES

Environmentally Friendly | Efficient in Operations | Economically Feasible

These take into account the needs of the planet, the people operating the ship and the owners need to make profit.



HYBRID — EASE OF OPERATION

IT COULDN'T BE SIMPLER

The captain can choose one of the following operating modes from the Wheelhouse and then the Hybrid Control Unit manages everything automatically.

FREE SAILING MODE

The main generator set starts and feeds the electric propulsion engines that are driving the rudder propellers. The main engines are not running and the auxiliary generator set is feeding the normal electric system as well. The free sailing mode can be used for station keeping, manoeuvring and free sailing at speeds of up to 8 knots.

STANDBY MODE

(in combination with the optional battery pack)

All diesel engines will shut down and the battery pack feeds the normal electric system and the electric propulsion engines that are driving the rudder propellers. The standby mode can be used for station keeping, manoeuvring and free sailing at speeds of up to 5 knots.

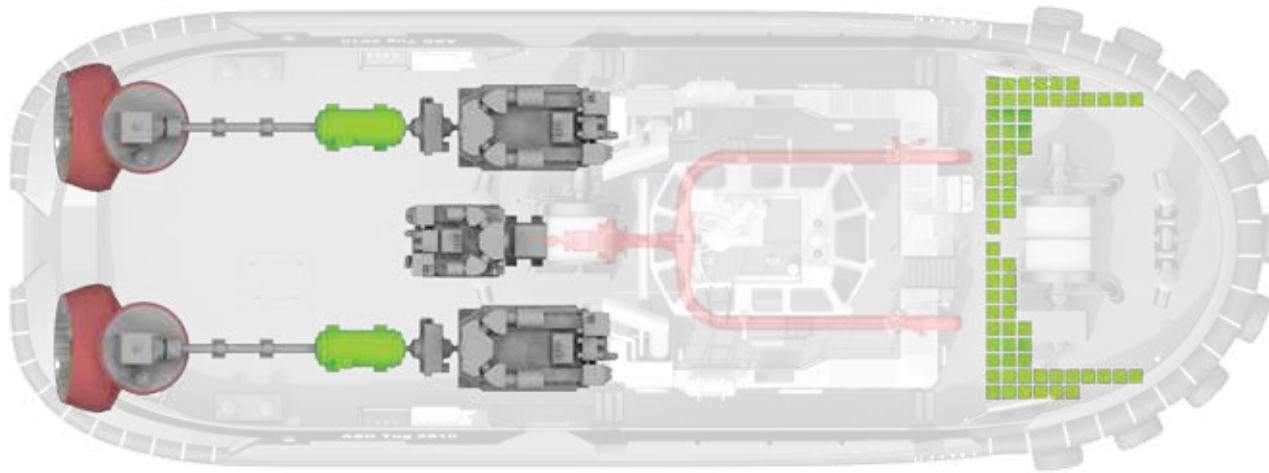


TOWING MODE

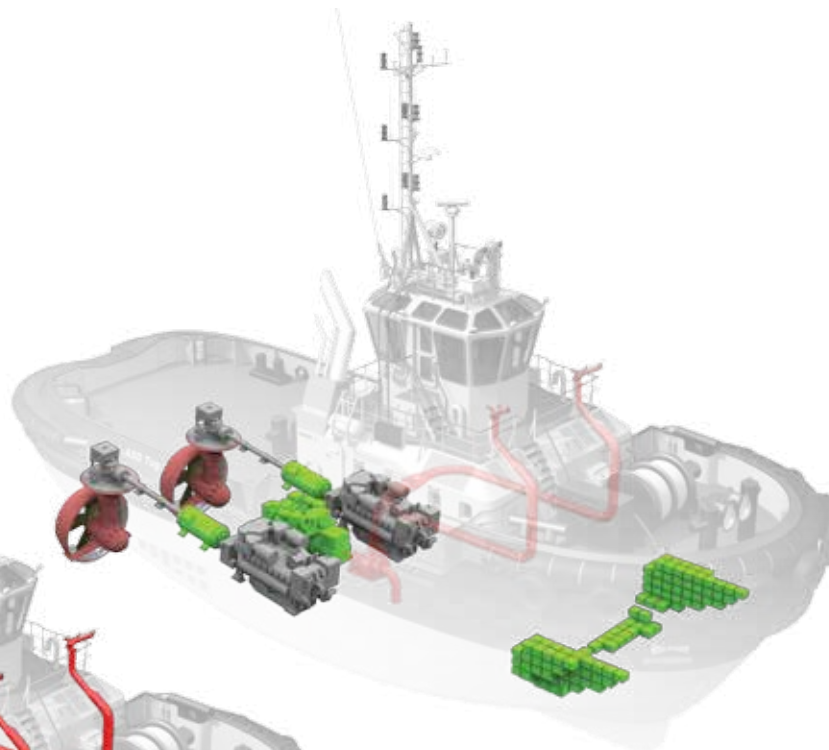
Main engines start and drive the rudder propellers. The generator set is not running and the auxiliary generator set feeds the normal electric system. The towing mode has to be used during push/pull operations and free sailing of up to 13.5 knots.

FIRE-FIGHTING MODE

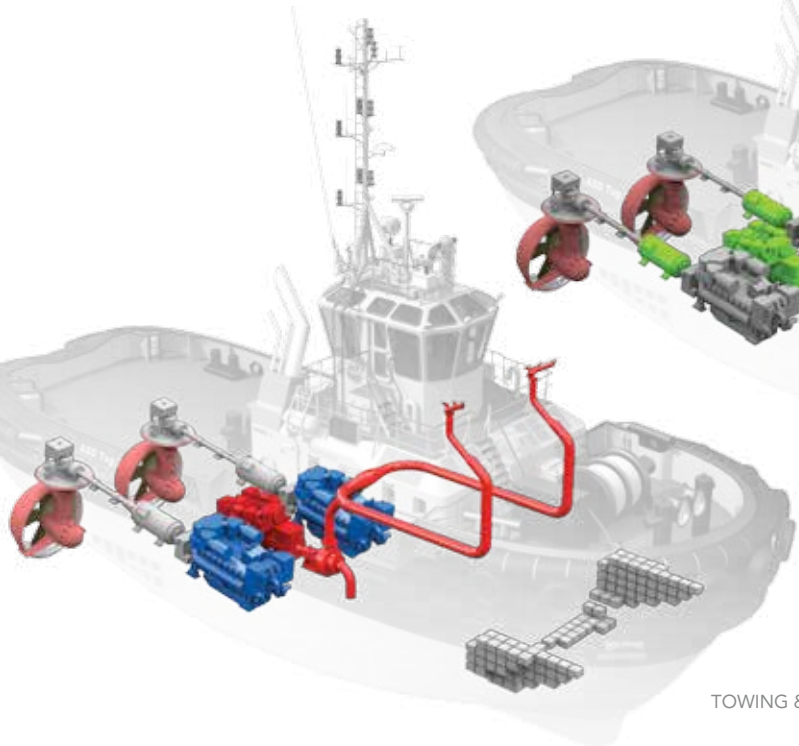
The fire-fighting mode has to be used during fire-fighting operations. Main engines start and drive the rudder propellers. Generator set starts and drives the fire-fighting pump. The auxiliary generator set is feeding the normal electric system.



STANDBY MODE



FREE SAILING MODE

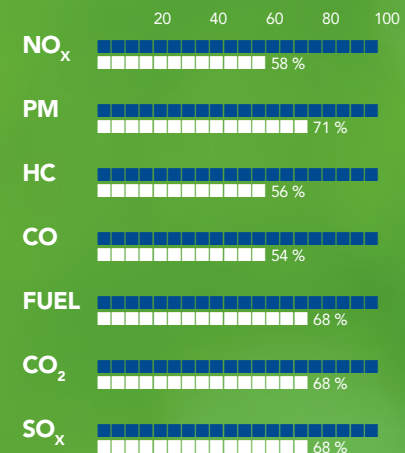


TOWING & FIFI MODE

REDUCED FUEL CONSUMPTION AND EMISSIONS

In the E3 Study a reduction of fuel consumption of up to 30% was calculated with a true operational profile of the Hybrid tug used, compared to a benchmark vessel - a standard ASD Tug 2810, the 'Smit Elbe', operating in the Port of Rotterdam.

The Hybrid also saw reductions of up to 40% in NO_x , HC, CO and up to a 30% reduction in PM, CO_2 and SO_x , compared to the Standard vessel.



■ ASD Tug Standard ■ ASD Tug HYBRID



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- 1 Superstructure sides are sloped for an optimal view at the sides.
- 2 Powerful floodlights are provided at fore and aft decks.
- 3 Large windows aft, fitted with a fresh water spraying system for cleaning.



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- 4 Spacious deck, ergonomically designed with good accessibility to winches, bollards and fairleads.
- 5 Easy access and easy cleaning, steel parts are well rounded, there are no sharp corners.
- 6 Customised 600, 1200 or 2400 m³/hr FiFi systems.



THE DAMEN ASD TUG 2810 IN DETAIL



PRINCIPAL DIMENSIONS	ASD 2810	ASD 2810 HYBRID
Length over all	28.67 m	28.67 m
Beam over all	10.43 m	10.43 m
Depth at side	4.60 m	4.60 m
Draught aft	4.90 m	4.90 m
Displacement approx.	565 ton	575 ton
Power main engines	3680 kW	3680 kW
Power E-engines	230 kW	230 kW
Bollard pull ahead	60 ton	60 ton
Bollard pull astern	55 ton	55 ton
Speed ahead	13.4 knots	13.4 knots
Speed astern	13.2 knots	13.2 knots
Battery packs:	-	2 x 120 kWh
Tier III generator:	-	800 kVA MTU
Rudder propellers:	Rolls-Royce US 205 / 2400mm	Rolls-Royce US 205 / 2400mm
Towing winch fore:	DOUBLE DRUM 35 ton pull 150 ton brake	DOUBLE DRUM 35 ton pull 150 ton brake
Towing winch aft:	35 ton pull, 150 ton brake	35 ton pull, 150 ton brake

SPACIOUS DECKS

A very open, clean deck layout with no obstructions for safe working conditions, while giving maximum workability.

FENDERING AROUND THE VESSEL

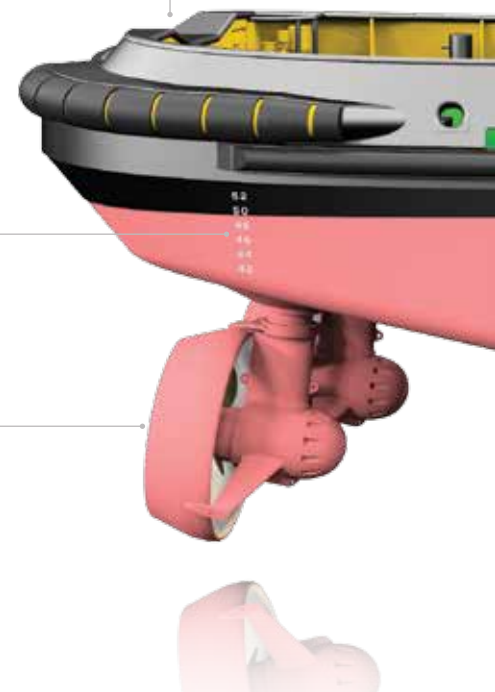
A heavy sheer strake 15mm steel profile behind the rubber fender for extra strength.

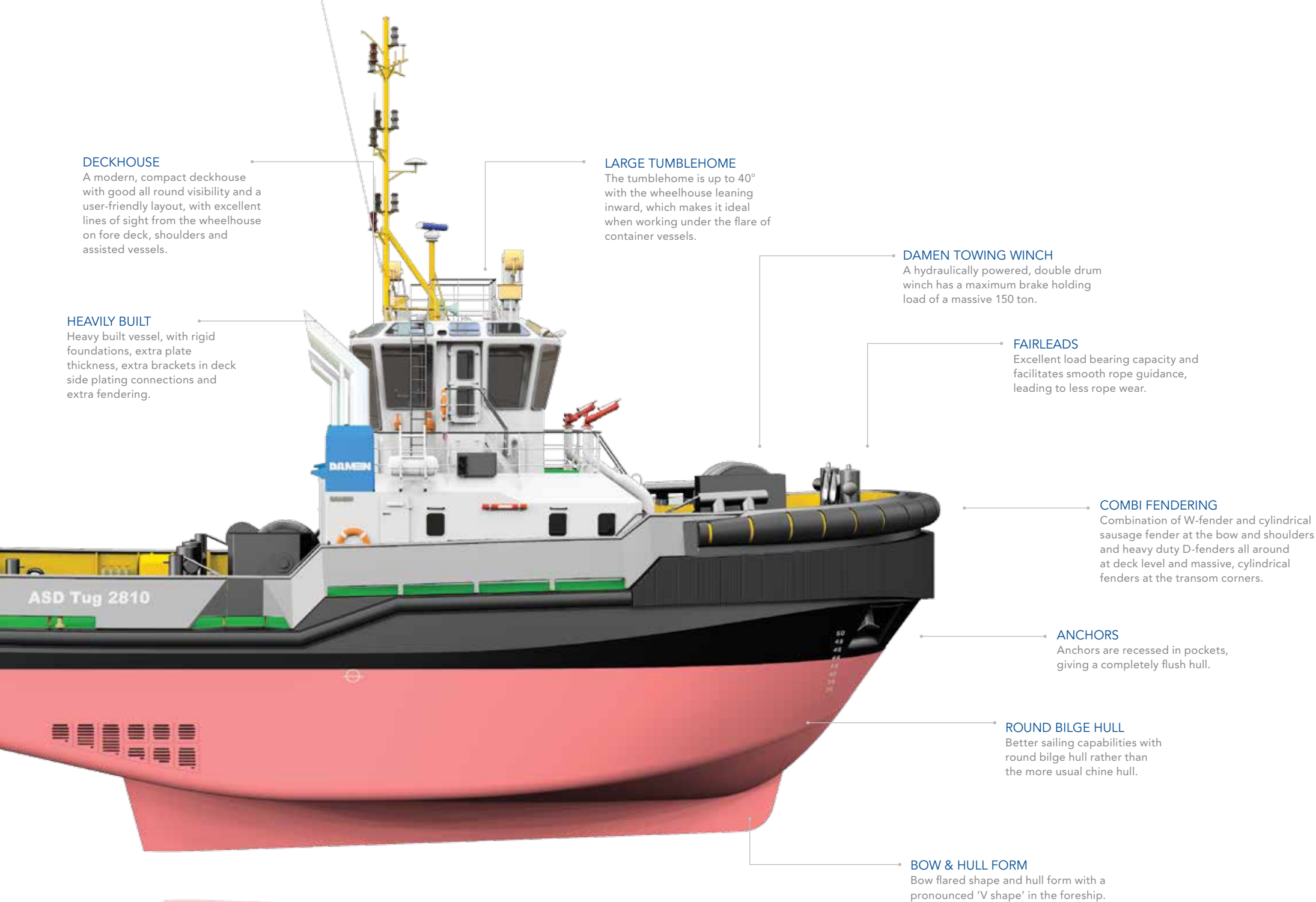
PAINTING

Very high quality two part, heavy-duty Epoxy paint systems, applied by Damen under cover in strictly controlled conditions.

POWERFUL PROPELLERS

Proven Rolls-Royce rudder propulsion, with two full 360° rotating fixed pitch propellers in the aft ship. Mounted at an angle of 7° for optimal performance.





DECKHOUSE

A modern, compact deckhouse with good all round visibility and a user-friendly layout, with excellent lines of sight from the wheelhouse on fore deck, shoulders and assisted vessels.

LARGE TUMBLEHOME

The tumblehome is up to 40° with the wheelhouse leaning inward, which makes it ideal when working under the flare of container vessels.

HEAVILY BUILT

Heavy built vessel, with rigid foundations, extra plate thickness, extra brackets in deck side plating connections and extra fendering.

DAMEN TOWING WINCH

A hydraulically powered, double drum winch has a maximum brake holding load of a massive 150 ton.

FAIRLEADS

Excellent load bearing capacity and facilitates smooth rope guidance, leading to less rope wear.

COMBI FENDERING

Combination of W-fender and cylindrical sausage fender at the bow and shoulders and heavy duty D-fenders all around at deck level and massive, cylindrical fenders at the transom corners.

ANCHORS

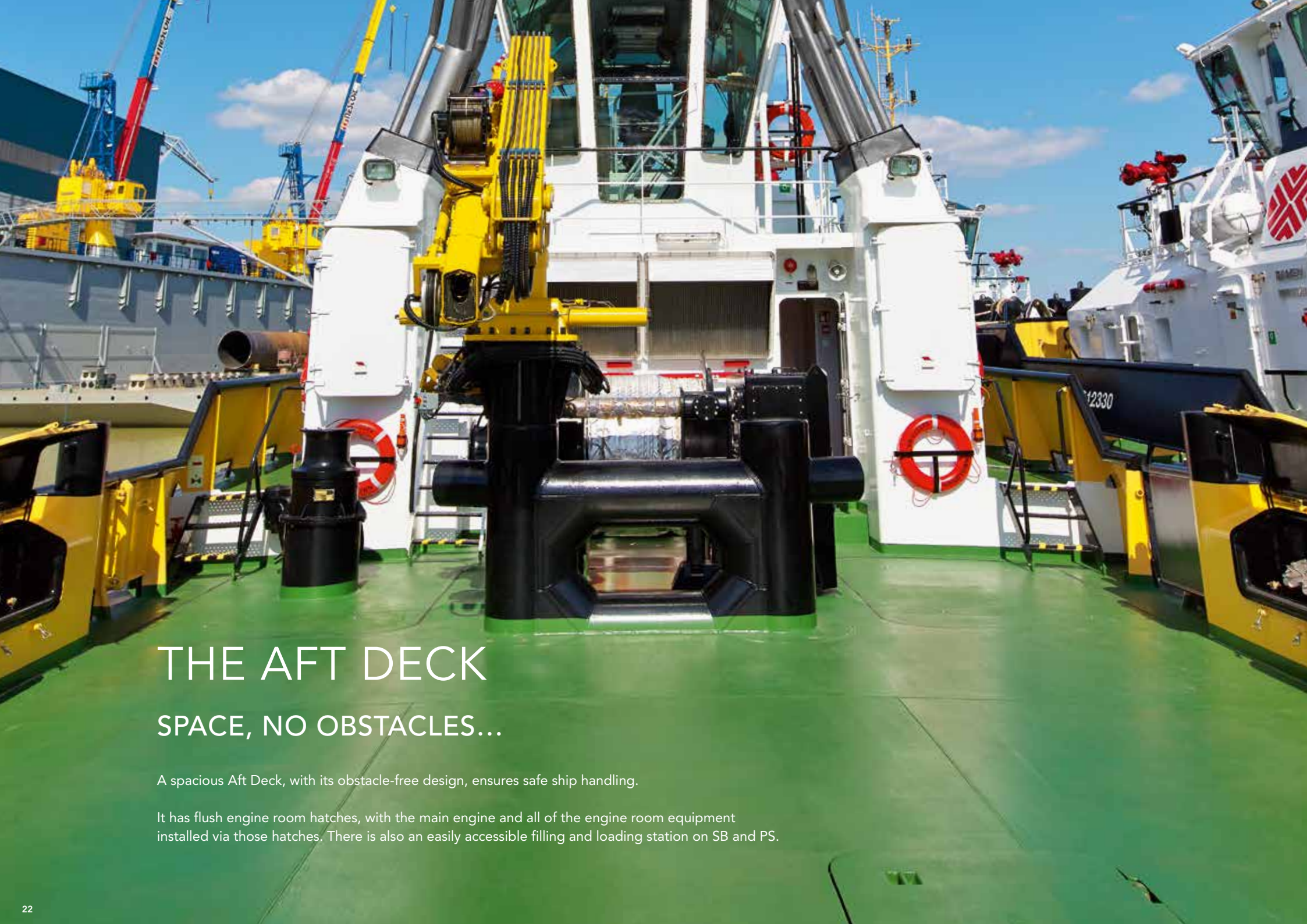
Anchors are recessed in pockets, giving a completely flush hull.

ROUND BILGE HULL

Better sailing capabilities with round bilge hull rather than the more usual chine hull.

BOW & HULL FORM

Bow flared shape and hull form with a pronounced 'V shape' in the foreship.



THE AFT DECK

SPACE, NO OBSTACLES...

A spacious Aft Deck, with its obstacle-free design, ensures safe ship handling.

It has flush engine room hatches, with the main engine and all of the engine room equipment installed via those hatches. There is also an easily accessible filling and loading station on SB and PS.



USER FRIENDLY LAYOUT

Easy access to loading station, which is simple to open with a user friendly layout.



ACCESSIBLE HATCHES

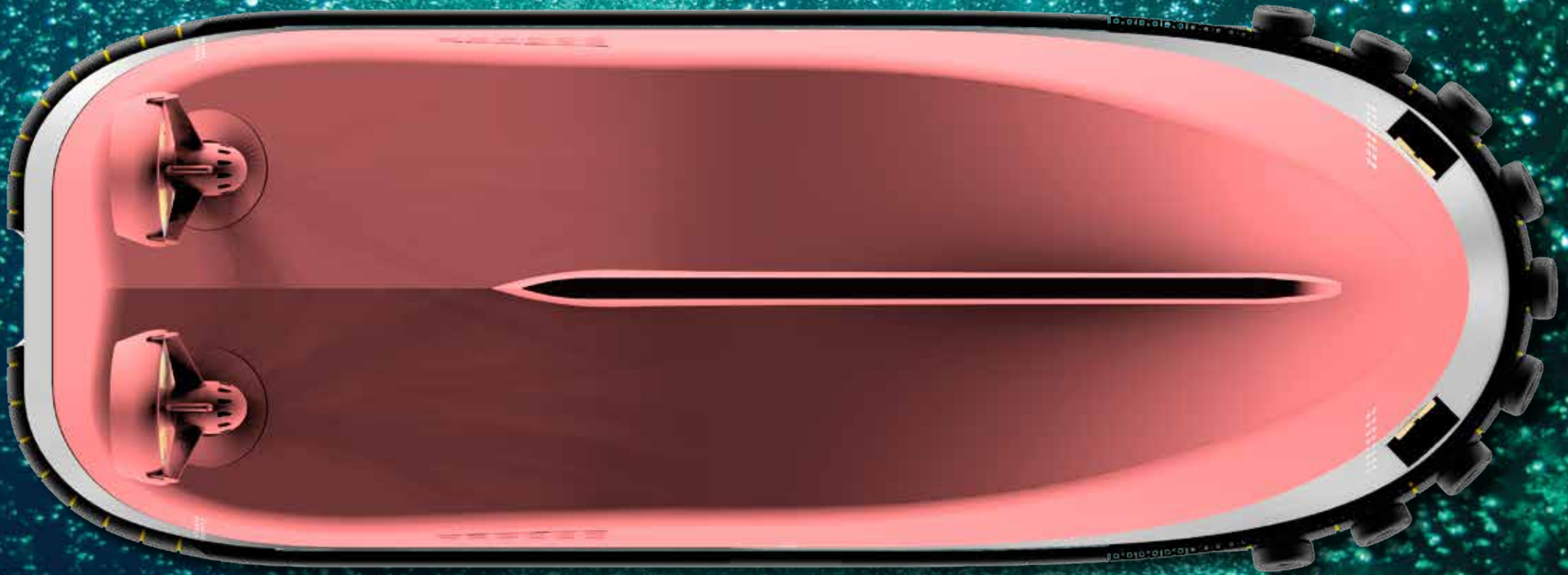
Easy access to store and escape hatches, which are simple to operate with gas cylinders.



GRATINGS

Overpressure gratings are stainless steel and inlet gratings are made from sea water resistant aluminium. Additionally, inlet gratings are fitted with special water traps.

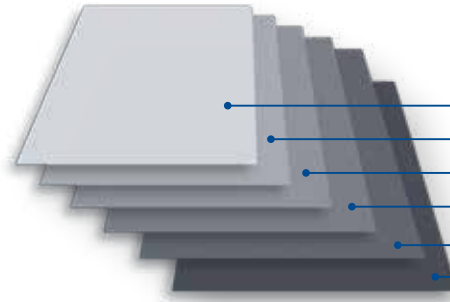
THE UNDERWATER SHIP



Excellent manoeuvrability and superb towing characteristics due to proven hull and skeg design, designed for operating in waves without losing stability.

PAINTING

The Damen ASD Tug 2810 incorporates state-of-the-art solutions for corrosion prevention. All steel parts are well rounded, welding is done without overlap or undercutting. Areas like the bulwark are closed for easy maintenance.



Hull outside, below load waterline

- 1 Coat INTERSHIELD 300 Bronze
- 1 Coat INTERSHIELD 300 Aluminium
- 1 Coat INTERGARD 263 Light Grey
- 1 Coat INTERSMOOTH 465 SPC Red
- 1 Coat INTERSMOOTH 365 SPC Brown
- 1 Coat INTERSMOOTH 365 SPC Red

Thickness (µm)

- 150
- 150
- 75
- 110
- 110
- 110



BOX COOLER GRATINGS

Gratings are hinged for easy inspection and maintenance. And the closed cooling system ensures that there is no corrosion or pollution.



PROPELLERS

SB and PS propellers rotating in stainless steel nozzles have opposite inward turning direction of rotation to create maximum performance.

THE ENGINE ROOM

THE HEART OF THE VESSEL

All machinery in the engine room is of first class marine type and the installation is laid out for easy watch-keeping, servicing and maintenance.



ENGINES - CHOOSE BETWEEN YELLOW OR BLUE

16 cylinders of sheer power. The two main engines are Caterpillar 3516C TA HD/C or MTU 16 V 4000M63, 2x 1850 kW, giving a maximum of 1600 RPM and very, very quick acceleration.



CLEAN, EASY MAINTENANCE

The engine room has been designed for safe operation, optimal accessibility and easy maintenance for the customer's convenience.



PIPING SYSTEMS

All piping systems are of the highest quality and are fitted carefully to prevent vibrations.



FUTURE READY

A bolted engine room hatch facilitates simple removal and engine installation and because we have anticipated possible future FiFi set installations, (Damen has a full range of optionals), all the pipes and FiFi foundations have already been provided.

In line with Damen's standardisation policy, the systems are provided in standard modules, including the pump systems and valve blocks for easy operations.

Additionally, everything is marked, labelled, colour-coded and flows are indicated for easy maintenance.





UNMANNED ENGINE ROOM

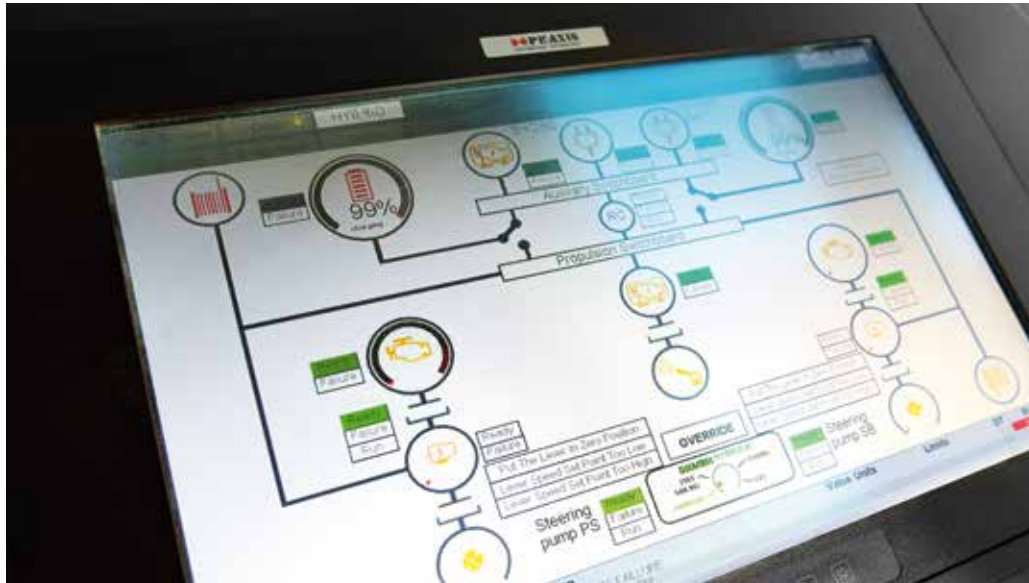
For the maximum safety of the crew, full control of the engine room is possible from the main deck when the tug is carrying out a towing operation. The crew can monitor the alarms and analyse the problem.

All piping systems have heavy, thick walls, which is above and beyond Class requirements.

WHEELHOUSE



A compact wheelhouse gives the captain an excellent, all round, 360° view. Large tinted windows are provided and sky windows give the optimal view on vessels being assisted. Ergonomically designed, with easy-to-use consoles, with operating panels with controls, monitoring and alarms, as well as nautical data, Hybrid, main engines, winch and auxiliary controls.



ONE MULTIFUNCTIONAL TOUCHSCREEN

The ASD Tug 2810 includes the MEGA operating and control system with one multifunctional touchscreen – with a day and night screen.



VISIBILITY

The Captain's window to the large container vessels.



IN CONTROL

All the control systems are duplicated. There is always one on standby ensuring safety and that the crew is in control should there be an emergency.

MODERN INTERIOR

CREW COMFORT IS ALWAYS IMPORTANT



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- 1 Durable and maintenance friendly plywood, hard plastic covered panelling and lockers.
- 2 Modern, spacious, air-conditioned cabins, above waterline, with writing table, drawers, lockers and book racks.
- 3 Comfortable mess room with lockers, settees, radio & tv, alarm info and nautical communication.



- 4 Rubber steps for safety and there are no sharp edges for easy cleaning and easy painting as well.
- 5 Durable stainless steel work top with 4 plate electric cooker and stainless steel combi-magnetron, freezer, refrigerator and dishwasher.
- 6 Small storage space for phone and spectacles.
- 7 Two drawers under the bed for extra storage.





COLOPHON

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