OEM specific information on product upgrade SP155 TCi - to - SE170/250TC

SIDE-POWER
Thruster systems

What is new on the SE170/250TC thruster

Mechanical:

New gearleg: The gearleg has been redesigned to be slimmer than before to further increase the water flow and reduce the water turbulence.

Sealed gearleg: The gearleg is fully sealed and pre-filled with a special long life gear oil.
The gearleg is sealed utilizing extremely reliable and proven "mechanical seals" of the same type as we have used on thousands of our smaller thrusters already.

New propellers: The new 5 bladed special skew propeller is the result of over two years of development work and thousands of tests.
In almost all installations, this new prop design will reduce noise significantly. It has the same outstanding energy efficiency as our old 4 bladed propeller (which was the challenge), but due to it also having a slightly more aggressive design it will provide more thrust than the old propellers. Separate information on propeller development will be released shortly.

Galvanic insulation: The gearleg is now fully galvanically insulated from the rest of the thruster, so that any current leaks or short circuiting onto these parts inside the boat will not affect the underwater parts of the thruster.
This is achieved with the use of composite sleeves in the motor bracket that insulate the gearleg electrically from the motor bracket.

Electrical:

Electric consumption: The increased thrust is achieved with a slight increase in current consumption - up approximately 5% - the same amount as the increase in thrust.

Implication on installation in boat:

Mechanical: All build measurements and fitting routines remain the same as with the previous models, except that there is no longer a oil bottle and feed line to mount or a need to fill the gearleg with oil. This reduces the installation time saving valuable labor expense.

Electrical: While the electric consumption will increase slightly, most installations will not require a change in cable size because the change is so small. If at all in doubt about your installation, please contact a Sidepower representative if needed to verify that you are using the correct cables and batteries.

Parts compatibility with previous model:

Gearleg: The sealed gearlegs are compatible with the previous oil-feed gearlegs, but you do not need the oil tank any more.
The old oil-feed gearlegs are not compatible with newer sealed gearleg thrusters.

Propellers: The new 5 blade special skew propellers are not compatible with older thrusters in standard issue, but adaptors are available so they can be used to upgrade previous models.
The old 4 blade propellers are not compatible with new gearlegs in standard version, but a special version is available.

Motorbracket: The new motorbracket with galvanic insulation is not compatible with thrusters that have oil-feed gearlegs.

Electric motor: The electric motors are fully compatible forward and backwards between SP155TCi and SE170/250TC thrusters.

CONCLUSION:

For all boatbuilders using the SP155TCi thruster today in their boats, the only practical implication they really need to consider is that the job of fitting the oil tank and filling the gearleg with oil is gone. However, due to parts compatibility we recommend that all boatbuilders change their internal part numbers for the thrusters or at least ensure that a proper change log is made for the boats with the new thruster models so to ensure that they know which model is on each boat.

Please see backside for detailed specifications of the new SE170/250TC product

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Product Specifications SE170/250TC

Description:

Typical boat size	50 - 70 foot
Tunnel inside diameter	250mm/9.8"
Propulsion system	Twin
Available for DCsystem	24V
Weight	44kg/97lbs.

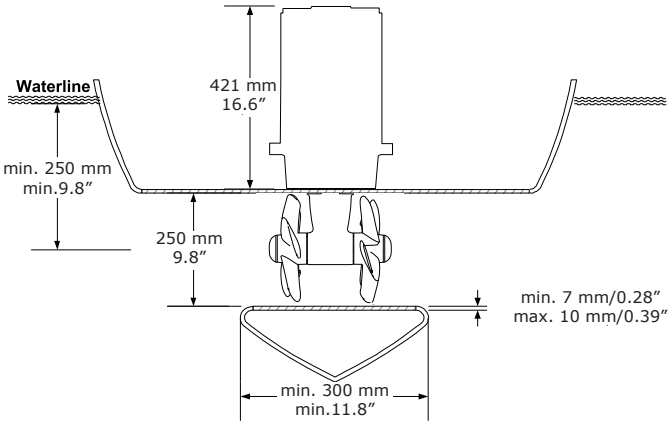
Performance and specifications at one tunnel diameter depth* :

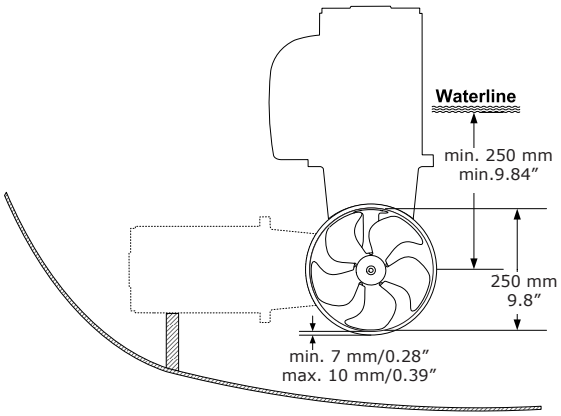
	At 21V	At 24V
Thrust	170kg/374lbs.	< 210kg/462lbs.
Output power	8kW/10,7Hp	< 9,6kW/12,8Hp
Average current draw	550A	< 660A
Continous run time (20°C)	3 min.	> 2,5 min.
Approx. long term run time	10% of time	6% of time
Min. battery CCA rating 24V		560/1065 CCA SAE
Sidepower fuse size:		ANL400

Notes !

* Actual performances, current consumption etc. will vary for each installation depending on many factors. Spesifications here given at one tunnel diameter depth and with voltage at thruster as shown. If you install deeper the thrust will be more as well as the current consumption, and the running time will be reduced. Electromotors power and efficiency tolerances are +/- 6%.

Installation planning





Battery & cable recommendations:

Table for selection of main cable, battery, fuse and main-switch sizes.			up to 7m total + & -		7 - 14m total + & -		14 - 21m total + & -		21 - 28m total + & -		28 - 35m total + & -		36 - 45m total + & -	
Model	Voltage	Current draw	Min. Cable dimension	Min.Battery CCA by DIN	Min. Cable dimension	Min.Battery CCA by Din	Min. Cable dimension	Min.Battery CCA by DIN	Min. Cable dimension	Min.Battery CCA by Din	Min. Cable dimension	Min.Battery CCA by DIN	Min. Cable dimension	Min.Battery CCA by Din
SE170/250TC	24V	550A	$50mm^2$ O	560 CCA DIN 1065 CCA SAE	$70mm^2$ OO+	560 CCA DIN 1065 CCA SAE	$70mm^2$ OO+	560 CCA DIN 1065 CCA SAE	$90mm^2$ OOO+	600 CCA DIN 1140 CCA SAE	$100mm^2$ OOOO	600 CCA DIN 1140 CCA SAE	$120\ mm^2$ OOOO+	600 CCA DIN 1140 CCA SAE

Minimum and recommended cable dimensions can be identical due to safety margins and cable heat considerations for short cable lenghts.

This document may contain typographical errors, to which Sleipner Motor assumes no responsibility.

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