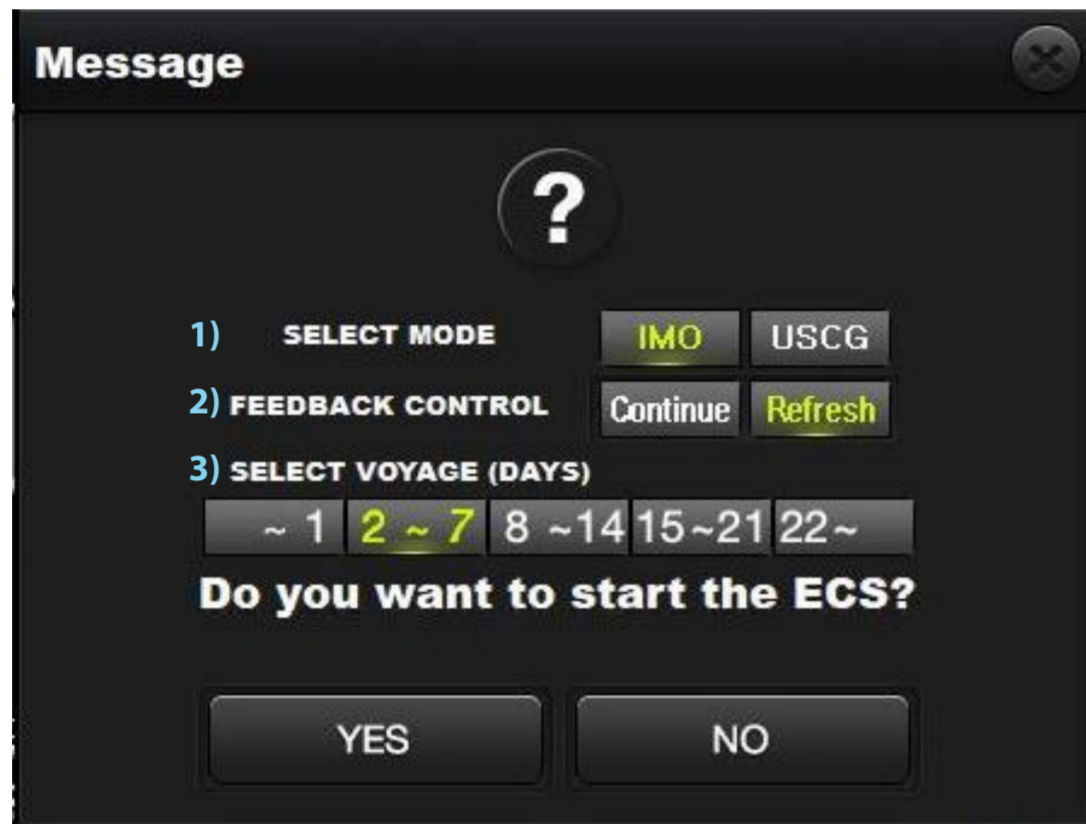


The world's leading ballast water management system, ECS (Electro-Clean™ System), was developed using Techcross's proprietary technology. It employs a direct electrolysis method to efficiently eliminate microorganisms in the ballast water tank by generating TRO (Total Residual Oxidants) during the process. Before discharging the treated ballast water stored in the tank, the appropriate injection of a neutralizer must be performed in compliance with relevant regulations.

Techcross offers the Voyage Period Select Mode via HMI to ensure economical use of neutralizer during operations. By familiarizing themselves with the functions of this mode and operating it appropriately according to the vessel's conditions, users can effectively prevent excessive consumption of neutralizer while maintaining optimal deballasting conditions.

However, improper use of this mode may result in excessive neutralizer consumption during the initial operation phase, leading to unnecessary waste and increased costs.

For detailed descriptions of each mode, please refer to the following:



1) SELECT MODE



There are differences in the alarm and shutdown criteria for each mode to allow users to operate appropriately based on the situation. The USCG mode applies stricter deballasting control criteria, which may result in relatively higher neutralizer consumption.

	Alarm	Fault
USCG	>0.07mg/L (3-cycle allowance)	>0.1mg/L (Immediate shutdown)
IMO	>0.1mg/L (3-cycle allowance)	>0.1mg/L (Shutdown after 5-cycle allowance)

2) FEEDBACK CONTROL



Continue	<ul style="list-style-type: none"> - Starts the deballasting operation by referencing feedback data from the previous operation. - The maximum injection time for filling the neutralizer injection line is not applied. - Effective when the re-start interval for deballasting operation is short.
Refresh	<ul style="list-style-type: none"> - Starts the initial deballasting operation without referencing feedback data. - The maximum injection time for filling the injection line is applied, which may result in higher initial neutralizer consumption.

3) SELECT VOYAGE (DAYS)



TRO naturally decreases over time due to its volatile nature. The longer the interval between ballasting and de-ballasting, the higher the natural reduction of TRO levels.

By configuring the Voyage Days setting:

- **Longer periods** reduce the initial neutralizer dosage.
- **Shorter periods** increase the initial neutralizer dosage.

Days	TRO set value
1	8 PPM
2-7	3 PPM
8-14	2 PPM
15-21	1 PPM
≥ 22	0.5 PPM

NOTICE

Notice of Price Reduction for Parts and Consumables

Starting December 2024, Techcross is pleased to announce price reductions on a selection of our most popular materials. This includes high-demand items such as neutralizers, reagents, and other essential consumables. Please refer to the table provided alongside for comprehensive details.

For quotations or purchase inquiries, we invite you to contact our dedicated Techcross Service Sales Team at parts-sales@techcross.com.

We are confident that this initiative will provide significant cost-saving opportunities for our valued customers, enhance operational efficiency, and increase customer satisfaction.

Code No.	Items
TC000867	Sodium Thiosulfate
TC001319	Citric Acid
TC000866	Distilled Water (TSU)
TC009651	Ex-CLX Reagent Kit (EX-CLX)
TC009232	Total Chlorine Reagent Kit (CLX)
TC006614	
TC000538	Solenoid Valve (TSU/ANU)
TC000539	
TC000540	
TC008002	
TC000897	Diaphragm (APU)
TC000896	
TC000898	
TC000899	
TC000895	
TC001991	Fuse (PRU)
TC000890	
TC004356	Diode (PRU)