
EEXI Calculation program (User manual)

February 2022



1. Function composition

The KR-GEARs EEXI program consists of a Main page, Calculation page and log page.

The main functions are shown in the table below.

1.1 Main page



Function	Details
Main page	<ul style="list-style-type: none">• Ships registered on the EEXI calculation page are shown as a list• You can check the status of drawing approval of the submitted EEXI Technical File / Onboard management Manual• Displays the type of vessel and the drawing approval status of the registered ships on EEXI calculation page in a graph.

1.2 Calculation page



Function	Details
Ship Particular	<ul style="list-style-type: none">• Create basic information of the ship and link necessary data when calculate EEXI• In case of KR registered vessel, data field registered in KR e-fleet is automatically linked.
Ship Speed	<ul style="list-style-type: none">• Calculate ship speed at 75% or 83% (EPL) of MCR according to the ship's speed-power table, and configure it to be graphed.• If there is no speed-power table, the speed calculation is derived according to the alternative method of EEXI

	calculation guidelines. Also you can manually enter the ship speed directly.
Calculation	<ul style="list-style-type: none"> • Calculated attained and required EEXI value • Check the result value used for calculation • Input the necessary data for application of dual fuel or correction factors
Application	<ul style="list-style-type: none"> • Application letter for drawing approval of EEXI Technical file and Onboard management can be fill out only for KR registered vessels. • Creation of EEXI technical file and Onboard management plan

1.3 Log page

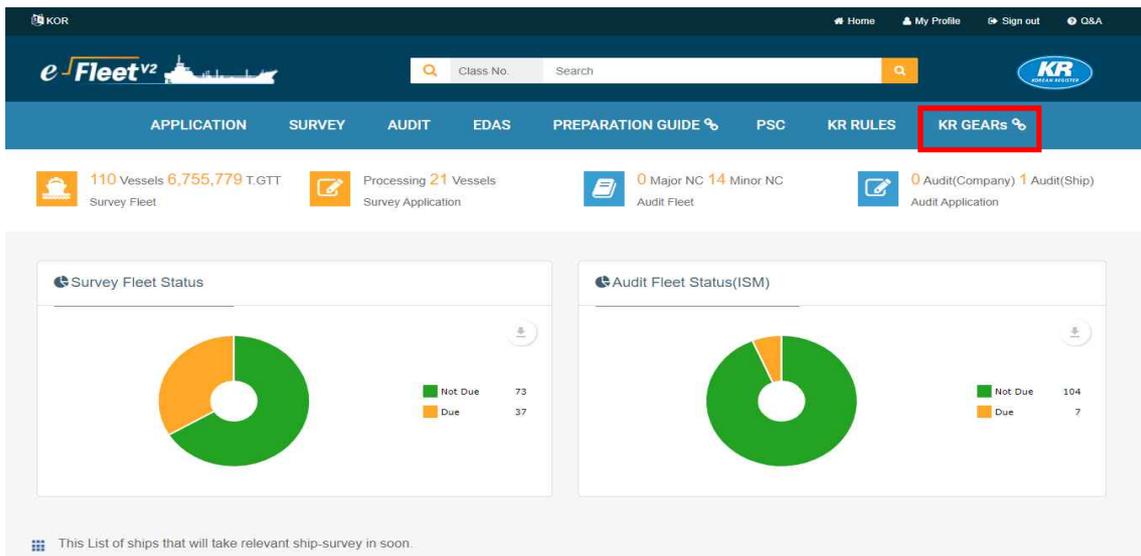


Function	Details
User log	<ul style="list-style-type: none"> • Check the user log for program use

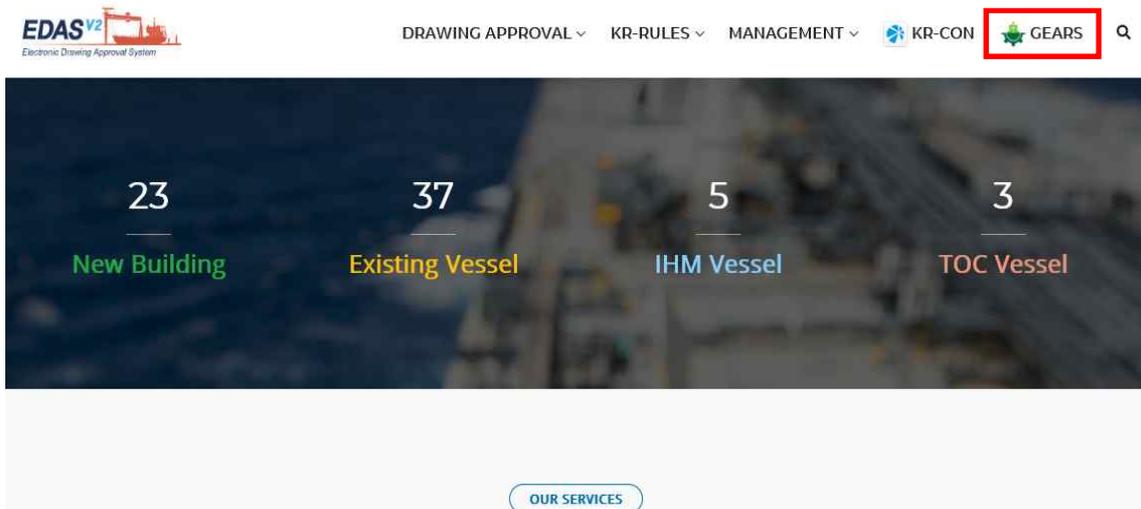
2. Login (<https://gears.krs.co.kr>)

1) If you have a KR E-fleet (for Ship Owner) & KR EDAS (for Ship Builder or Designer) registration account, you can log in through the corresponding ID/PW.

If you have any inquiry regarding the use of this program, please contact decarbonization@krs.co.kr.



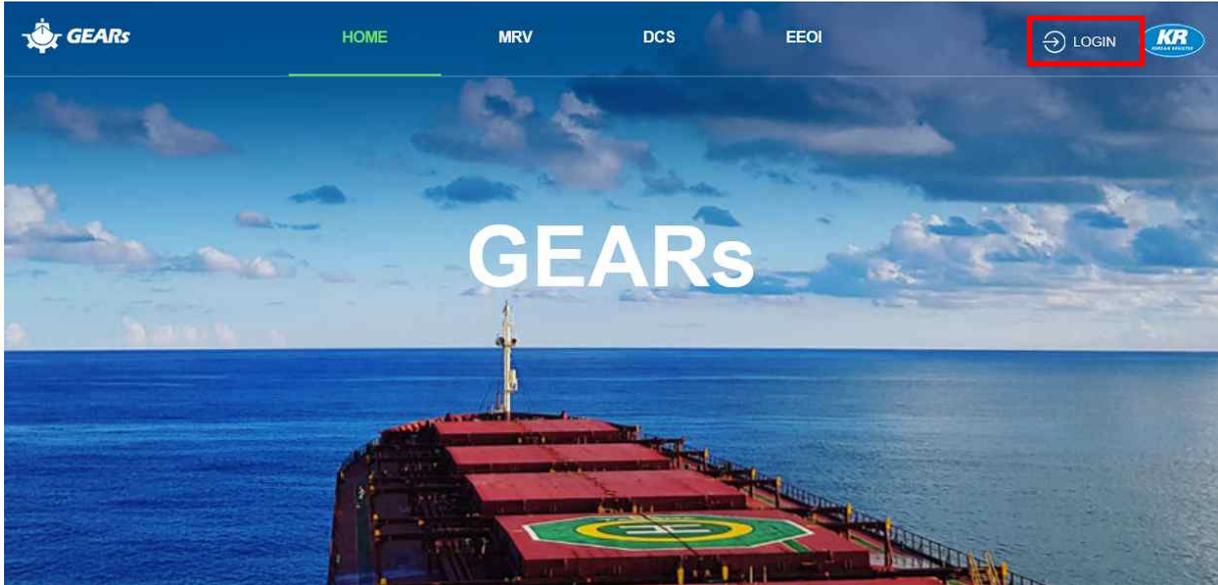
KR e-Fleet Main



KR EDAS Main

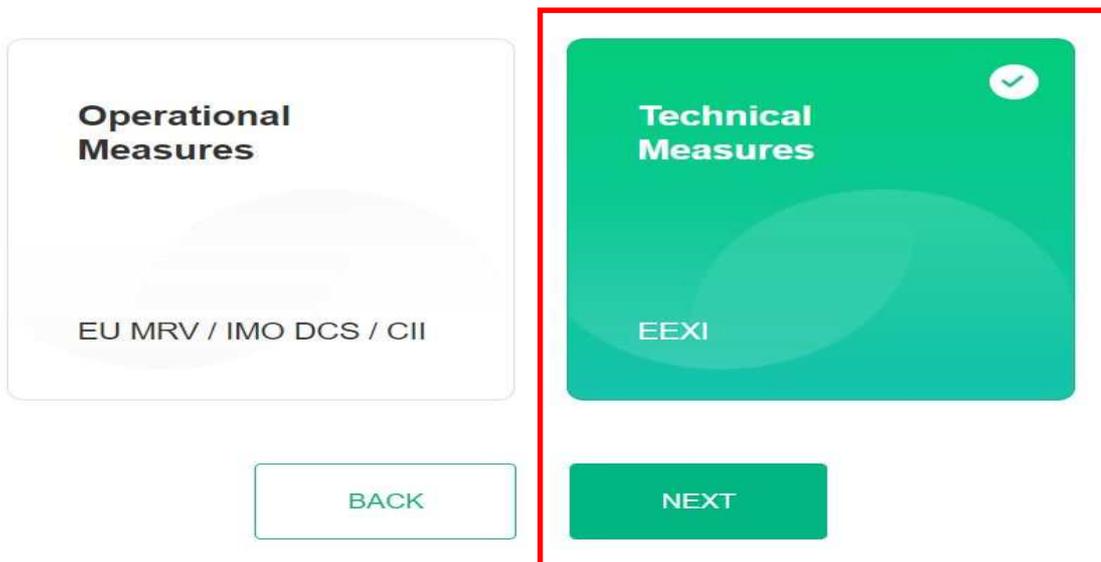
2) If you don't have a KR E-fleet & KR EDAS registration account, you can create an ID/PW by sending the request E-mail to decarbonization@krs.co.kr.

And then you can use KR GEARS after login.



3) After log in KR GEARS, select the EEXI function and click the NEXT button

Please select the function want to use.



3. Main page

3.1 Main page

1) On the main page, a list of ships registered in the calculation page and drawing approval status for each ship is displayed.

In addition, the current status of ship type and drawing approval is displayed as a graph.

The screenshot shows the GEARs main page. On the left is the 'SHIP LIST' table with columns: No., Ship Name, IMO No., Complete, Update, EEXI Status, and OMM Status. It lists three ships: SR COMBINATION 2, Application test, and AppTest. On the right is the 'SHIP TYPE CHART' donut chart showing the distribution of 98 total ships across five types: Bulk carrier (35, 35.7%), Tanker (12, 12.2%), LNG carrier (8, 8.2%), General cargo ship (7, 7.1%), and Gas carrier (6, 6.1%). Below the chart is a 'TOP 5' table with columns: Ship Type, Number, and Percentage.

No.	Ship Name	IMO No.	Complete	Update	EEXI Status	OMM Status
1	SR COMBINATION 2	2030000	SP SS C AP	2021-12-27	PROCESSING	PROCESSING
2	Application test	5980000	SP SS C AP	2021-12-27	PROCESSING	PROCESSING
3	AppTest	1523634	SP SS C AP	2021-12-22	PROCESSING	

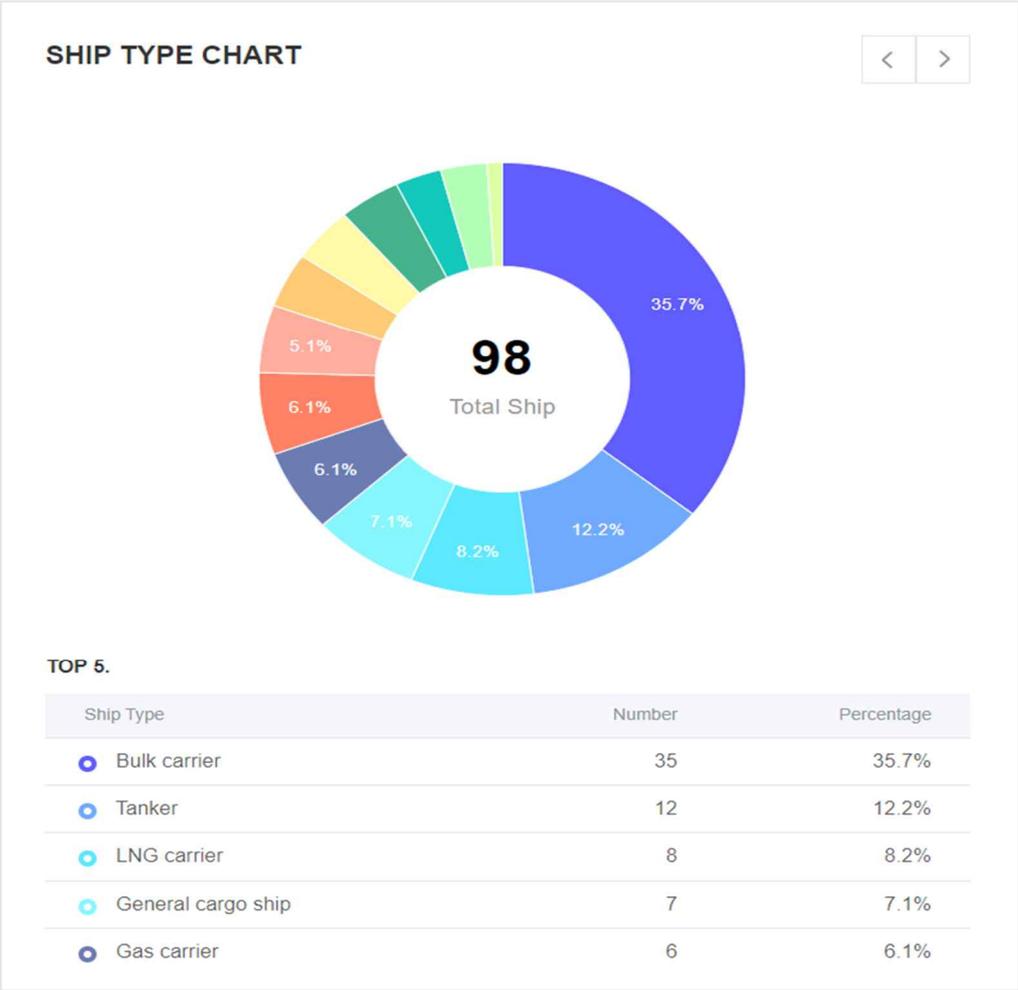
Ship Type	Number	Percentage
Bulk carrier	35	35.7%
Tanker	12	12.2%
LNG carrier	8	8.2%
General cargo ship	7	7.1%
Gas carrier	6	6.1%

<Main page>

2) Ships registered on the EEXI calculation page appear on the SHIP LIST, and the drawing approval status can be filtered through the Filter button.

This screenshot shows the 'SHIP LIST' table and the 'Filter' panel. The 'Filter' panel is on the right and has sections for 'EEXI Status' and 'OMM Status'. The 'Filter' button is highlighted with a red box, and the 'EEXI Status' and 'OMM Status' columns in the table are also highlighted with a red box. The 'Filter' panel has checkboxes for 'Temporary', 'Standby', 'Receipt', 'Processing', 'Completion', and 'Rejection' under both 'EEXI Status' and 'OMM Status'. There are 'RESET' and 'APPLY' buttons at the bottom of the filter panel.

3) You can check the status of ship types registered on the EEXI calculation page and drawing approval in a graph.



<Ship type chart>

SHIP STATUS CHART



EEXI Status List

Status Type	Number	Percentage
● Temporary	0	0
● Stanby	0	0
● Receipt	0	0
● Processing	3	100
● Completion	0	0
● Rejection	0	0



OMM Status List

Status Type	Number	Percentage
● Temporary	0	0
● Stanby	0	0
● Receipt	0	0
● Processing	2	100
● Completion	0	0
● Rejection	0	0



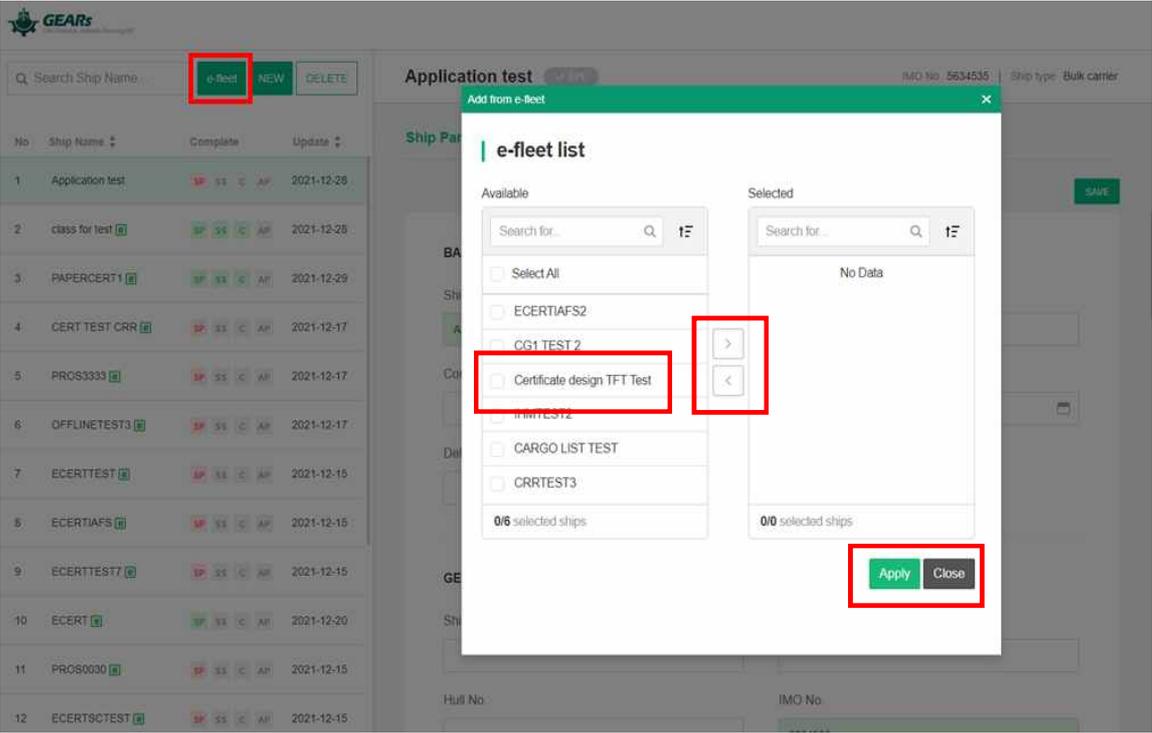
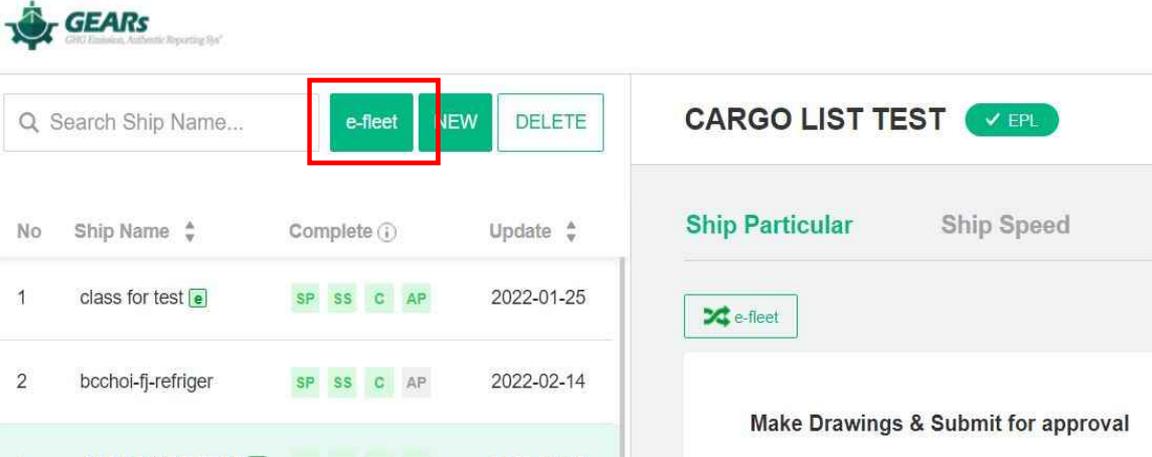
<Drawing approval status>

4. Create a new ship / Ship Particulars

4.1 Create a new ship

1) In case of KR registered ships, you can add a create ship registered to the KR e-fleet through the e-fleet button.

In the case of ship creation through the e-fleet button, main input data such as ship name, IMO No, principal particulars are automatically entered into the input field.



2) In case of ships not registered in KR, you can add a create ship through the NEW button.

Q Search Ship Name... e-fleet **NEW** DELETE

CARGO LIST TEST ✓ EPL

Ship Particular Ship Speed

e-fleet

Make Drawings & Submit for approval

No	Ship Name	Complete	Update
1	class for test	SP SS C AP	2022-01-25
2	bcchoi-fj-refriger	SP SS C AP	2022-02-14

Application test IMO No 5634535 | Ship type Bulk carrier

Ship Particular

Create Ship

Please enter the vessel information.

Ship Name

IMO No.

Ship Type

CANCEL CONTINUE

BASIC INFO.

Ship Name

Contract Date

Delivery Date

GENERAL INFORMATION

Ship Owner

Hull No.

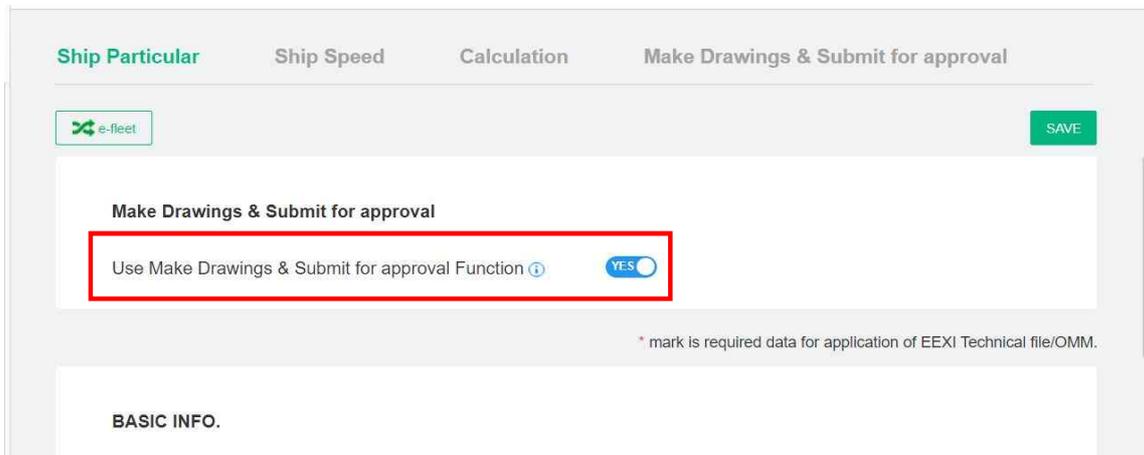
Shipbuilder

IMO No.

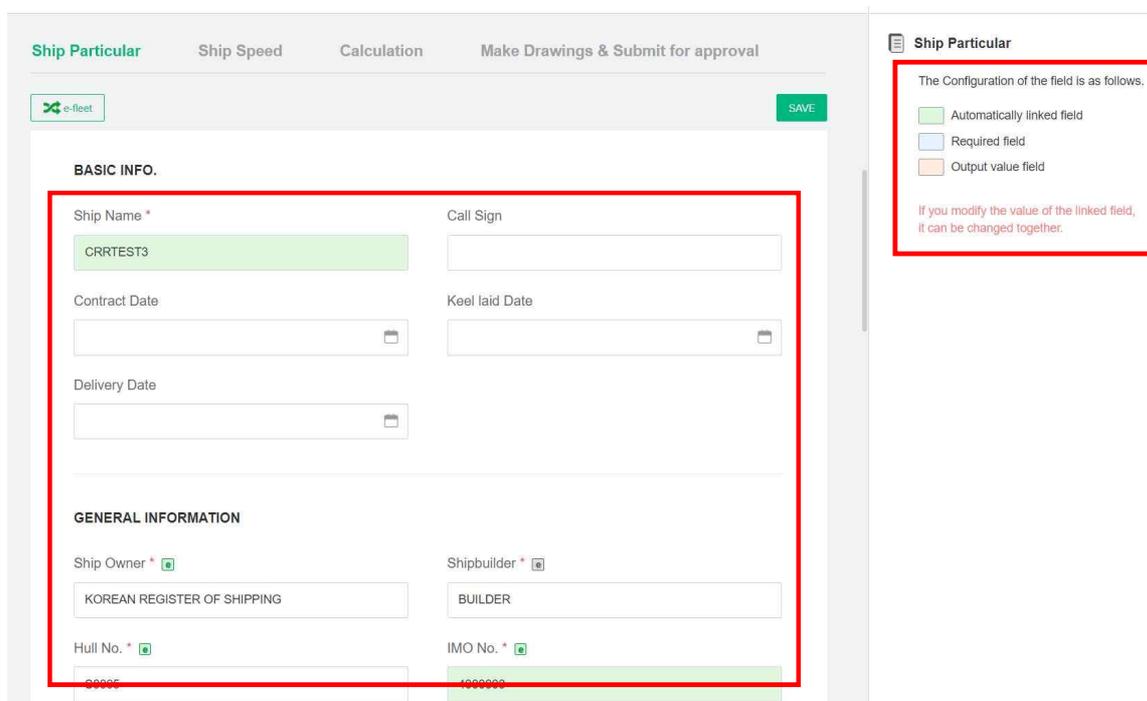
No	Ship Name	Complete	Update
1	Application test	SP SS C AP	2021-12-26
2	class for test	SP SS C AP	2021-12-28
3	PAPERCERT1	SP SS C AP	2021-12-29
4	CERT TEST ORR	SP SS C AP	2021-12-17
5	PROS3333	SP SS C AP	2021-12-17
6	OFFLINETEST3	SP SS C AP	2021-12-17
7	ECERTTEST1	SP SS C AP	2021-12-15
8	ECERTWFS	SP SS C AP	2021-12-15
9	ECERTTEST7	SP SS C AP	2021-12-15
10	ECERT	SP SS C AP	2021-12-20
11	PROS0030	SP SS C AP	2021-12-15
12	ECERTSCTEST	SP SS C AP	2021-12-15

4.2 Ship Particular

- 1) Please activate the toggle button to YES for creation of EEXI Technical File and Onboard Management Manual and approval submission.



2) Enter the input data by referring to the color of the field description on the right.



3) The configuration of field colors is as below table.

No	Color	Description
1	Green	- Required data - Automatically linked field
2	Blue	- Required data - Required filed for EEXI calculation
3	Red	- The result value calculated when click the calculate button.
4	(*) mark	- Required data - Required field for make drawings(EEXI technical file/OMM)

TEST SHIP ✓ EEXI IMO No: 0000001 | Ship type: Tanker

Ship Particular Ship Speed Calculation

GENERAL INFORMATION SAVE

Shipbuilder: 2021-02-05 Hull No: 32

IMO No: 0000001 1 Ship Type: Tanker

PRINCIPAL PARTICULARS

Length overall(m): 500 Length between perpendiculars(m): 30

Breadth, moulded(m): 50 Depth, moulded(m): 40

Summer load line draught, moulded(m): 12 Deadweight at Summer load line draught(ton): 81200 2

SHIP SPEED CALCULATION TYPE

Speed-Power Curve at EEDI draught
 Speed-Power Point at EEDI draught
 Alternative Speed calculation SELECT

Engine Power at MCR₅₀(kW): 1300 Ship Speed at 83% of MCR₅₀(knot): 6.896 3

SPEED-POWER CURVE

BASIC INFO.

4 Ship Name * Call Sign

4) In case of KR registered ships, data from e-fleet automatically linked and in this case the e-fleet icon is displayed on the right. ()

4-1) If the data registered in the e-fleet matches the data entered in EEXI field, the icon () is activated.

4-2) If the data registered in the e-fleet changed by manually input, the icon () is activated.

4-3) e-fleet data could be synchronized again by clicking the e-fleet button at the top. ()

The screenshot shows the GEARs web application interface. On the left is a list of ships with columns for No., Ship Name, Complete, and Update. The right panel shows the 'class for test' form. The 'GENERAL INFORMATION' section is highlighted with a red box and contains the following fields:

- Ship Owner * (KOREAN REGISTER OF SHIPPING)
- Shipbuilder * (12345)
- Hull No. * (1664)
- IMO No. * (123456)
- Ship Type * (Containership)
- ICE Class * (N/A)

Below this is the 'PRINCIPAL PARTICULARS' section with fields for Length overall(m) *, Length between perpendiculars(m) *, Breadth, moulded(m) *, and Depth, moulded(m) *.

5) In the case of EPL applied ships, data is entered by activating the EPL button.

If you click the EPL(Engine Power Limit) button in the MAIN ENGINE category, additional fields are created for inputting limited power(hereafter referred to as MCRlim) and SFC(hereafter referred to as SFClim) values, and the EPL button next to the ship name is activated.

The screenshot shows the 'TEST SHIP' form with the 'EPL' button highlighted. The 'MAIN ENGINE' section is active, and the 'Fuel Type' is set to 'Diesel/Gas Oil'. Below this is a table for engine specifications:

No.	Power at MCR(kW)	SFC at 75% MCR(g/kWh)	RPM at MCR(RPM)	Type	Manufacturer
1	10000	160			
2					
3					
4					

CARGO LIST TEST ✓ EPL IMO No 0987654 | Ship type Refrigerated cargo carrier

Ship Particular Ship Speed Calculation Make Drawings & Submit for approval

e-fleet SAVE

MAIN ENGINE ✓ EPL

Fuel Type Diesel/Gas Oil

SFC at 75% MCR(g/kWh)	MCR _{lim} (kw)	SFC at 83% MCR _{lim}	RPM at MCR(RPM)	RPM at MCRlim(RPM)	Serial No.*	Type*	M
190			30			123	

6) If you click the next tab (Ship Speed) without completing the required data input on the Ship Particular tab, a warning message asking you to enter the data value is displayed and an error message is displayed in the description on the right. Clicking on an error will move you to the corresponding input field.

TEST SHIP ✓ EPL IMO No 1234598 | Ship type tanker

Ship Particular Ship Speed Calculation

SAVE

Ship Particular Ship Speed Calculation

SAVE

Breadth, moulded(m)

Depth, moulded(m)

Summer load line draught, moulded(m)

Gross ton(ton)

81000

Deadweight at Summer load line draught(ton)

This is a required field.

Error data 1

Deadweight at Summer load line draught(ton)
Deadweight is required data.

7) If you input all the required data and press SAVE button, you can move to the next tab(Ship Speed) with a message "The data saved successfully"

The screenshot shows a web application interface for a ship. At the top, a blue notification box with a red border displays the message "The data saved successfully." with a close button. Below this, the page header includes "TEST SHIP" with a dropdown menu showing "EPL", and "IMO No 1236547 | Ship type tanker". The main content area has three tabs: "Ship Particular" (active), "Ship Speed", and "Calculation". A green "SAVE" button is located in the top right of the form area. The form contains several input fields: "Breadth, moulded(m)", "Depth, moulded(m)", "Summer load line draught, moulded(m)", "Deadweight at Summer load line draught(ton)" (with a value of 150000), and "Gross ton(ton)" (with a value of 81000).

Field	Value
Breadth, moulded(m)	
Depth, moulded(m)	
Summer load line draught, moulded(m)	
Deadweight at Summer load line draught(ton)	150000
Gross ton(ton)	81000

5. Ship Speed

- 1) On the Ship Speed tab, ship speed and graph are derived according to the input values of the Speed-Power table. In cases where the Speed-Power curve is not available or the sea trial report does not contain the EEDI or design load draft condition, ship speed can be obtained from alternative speed calculation.

Also, you can manually input the ship speed value directly and save it. By pressing the select button, you can activate the desired calculation formula.

The screenshot shows the 'SHIP SPEED CALCULATION TYPE' selection screen. It features four radio button options: 'Speed-Power Curve at EEDI draught', 'Speed-Power Point at EEDI draught', 'Speed-Power Point at Design draught', and 'Alternative Speed calculation'. A red rectangular box highlights these options. To the right of the options is a green 'SELECT' button. Above the options are 'SAVE' and 'CALCULATE' buttons. The page header includes 'TEST SHIP', 'EPL', 'IMO No 0000001', and 'Ship type Tanker'. The navigation tabs are 'Ship Particular', 'Ship Speed', and 'Calculation'.

- 2) Speed-Power Curve at EEDI draught

If you input the speed-power table with select Speed Power Curve at EEDI draught and click the calculation button, the ship speed is automatically calculated and displayed in the red field with speed-power curve.

The screenshot shows the 'SHIP SPEED CALCULATION TYPE' screen with the 'Speed-Power Curve at EEDI draught' option selected. Below the options, there are two input fields: 'Engine Power at MCR' with a value of 10000 and 'Ship Speed at 75% of MCR' with a value of 13.778. A 'RESET' button is located to the right of these fields. Below the input fields is a 'SPEED-POWER TABLE' with the following data:

No.	At Summer Load Draft	
	Speed(knots)	Power(kW)
1	11	4000
2	12	5016
3	13	6336
4	14	7876

TEST SHIP ✓ EPL IMO No. 0000001 | Ship type: Tanker

Ship Particular Ship Speed Calculation

SAVE CALCULATE

SHIP SPEED CALCULATION TYPE

Speed-Power Curve at EEDI draught
 Speed-Power Point at EEDI draught
 Speed-Power Point at Design draught
 Alternative Speed calculation

RESET

Engine Power at MCR_{lim}(kW)
↔
Ship Speed at 83% of MCR_{lim}(knot)

8000
↔
13.229

SPEED-POWER TABLE

No.	At Summer Load Draught	
	Speed(knots)	Power(kW)
1	11	4000
2	12	5016
3	13	6336
4	14	7876

Ship Particular Ship Speed Calculation

SAVE CALCULATE

5	14	7876
6	15	9725

ⓘ All values in the table must be entered for calculation.

SPEED-POWER CURVE

When EPL is activated, ship speed calculated reflecting the MCR_{lim}.

3) Speed-Power Point at EEDI draught

This option can be selected when there is only one point result value, not a speed-power curve (several points).

The field values are defined as the below table.

Item	Definition
V _{s,EEDI}	Sea trial service speed under the EEDI draught

$P_{S,EEDI}$	Power of the main engine corresponding to $V_{S,EEDI}$
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If you click the calculation button after input $V_{S,EEDI}$ and $P_{S,EEDI}$ values, the ship speed is automatically calculated and displayed in the red field, and a point plotted on the speed-power curve.

TEST SHIP ✓ EPL IMO No 0000001 | Ship type Tanker

Ship Particular **Ship Speed** Calculation

SHIP SPEED CALCULATION TYPE

Speed-Power Curve at EEDI draught
 Speed-Power Point at EEDI draught
 Speed-Power Point at Design draught
 Alternative Speed calculation

Engine Power at MCR: 10000

Ship Speed at 75% of MCR: 9.086

$V_{S,EEDI}$: 10

$P_{S,EEDI}$: 10000

TEST SHIP ✓ EPL IMO No 0000001 | Ship type Tanker

Ship Particular **Ship Speed** Calculation

SHIP SPEED CALCULATION TYPE

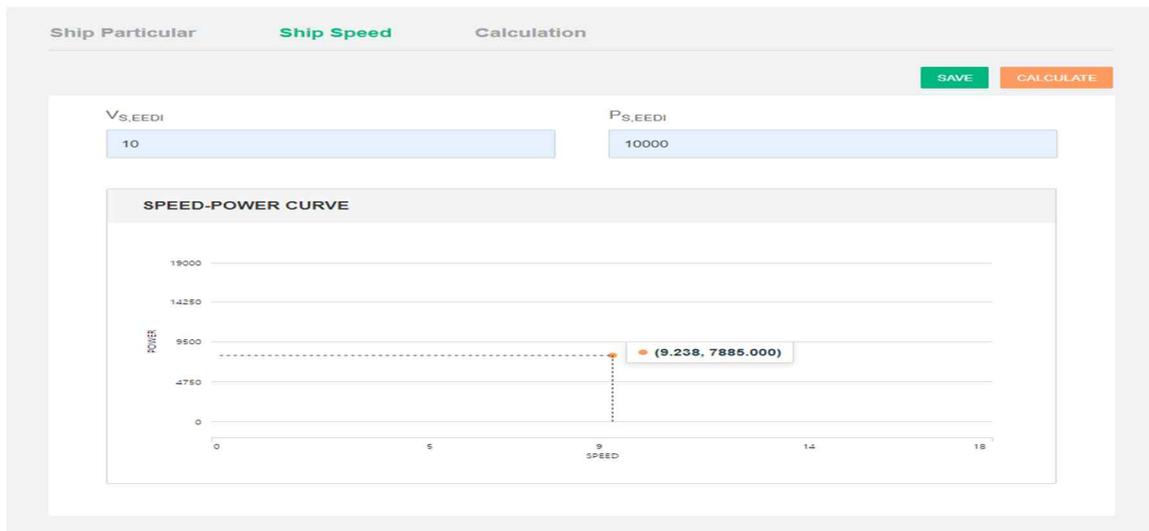
Speed-Power Curve at EEDI draught
 Speed-Power Point at EEDI draught
 Speed-Power Point at Design draught
 Alternative Speed calculation

Engine Power at $MCR_{lim}(kW)$: 9500

Ship Speed at 83% of $MCR_{lim}(knot)$: 9.238

$V_{S,EEDI}$: 10

$P_{S,EEDI}$: 10000



4) Speed-Power Point at Design draught

This option can be selected when the speed-power curve of design draught is available only for containers, bulk carriers or tankers.

The field values are defined as the below table.

item	Definition
$V_{s,service}$	Sea trial service speed under the design load draught
$DWT_{s,service}$	Deadweight under the design load draught
$P_{s,service}$	Power of the main engine corresponding to $V_{s,service}$
k	Scale coefficient

If you click the calculation button after input $V_{s,service}$ and $P_{s,service}$, $DWT_{s,service}$ values, the ship speed is automatically calculated and displayed in the red field, and a point plotted on the speed-power curve.

TEST SHIP ✓ EPL IMO No 0000001 | Ship type Tanker

Ship Particular **Ship Speed** Calculation

SHIP SPEED CALCULATION TYPE

Speed-Power Curve at EEDI draught
 Speed-Power Point at Design draught
 Speed-Power Point at EEDI draught
 Alternative Speed calculation

Engine Power at MCR: 11500
 Ship Speed at 75% of MCR: 9.392

V_{S,SERVICE}: 10
 P_{S,SERVICE}: 10000

DWT_{S,SERVICE}: 80000

SAVE CALCULATE RESET

TEST SHIP ✓ EPL IMO No 0000001 | Ship type Tanker

Ship Particular **Ship Speed** Calculation

SHIP SPEED CALCULATION TYPE

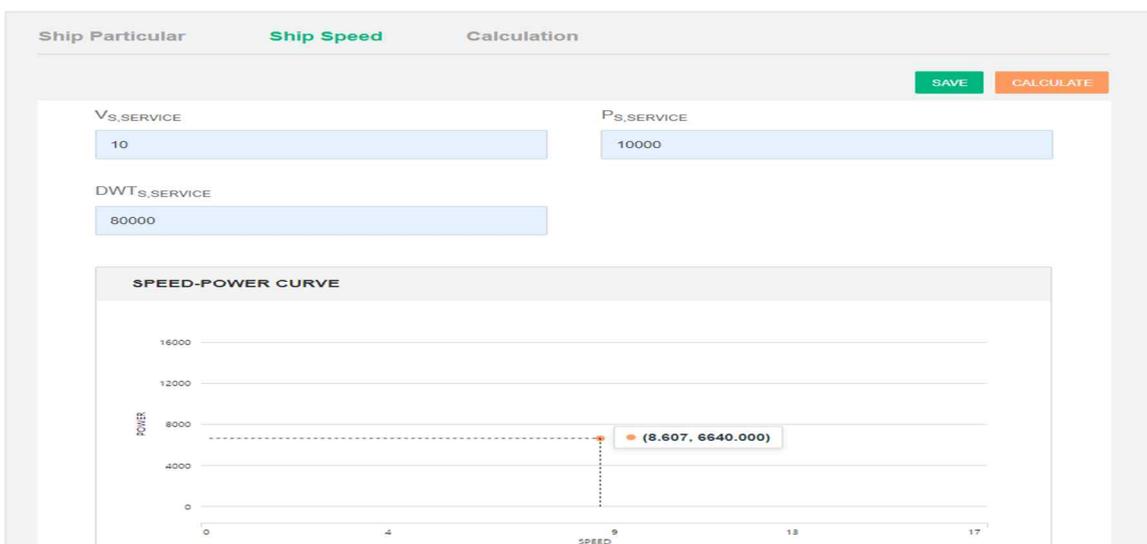
Speed-Power Curve at EEDI draught
 Speed-Power Point at Design draught
 Speed-Power Point at EEDI draught
 Alternative Speed calculation

Engine Power at MCR_{lim}(kW): 8000
 Ship Speed at 83% of MCR_{lim}(knot): 8.607

V_{S,SERVICE}: 10
 P_{S,SERVICE}: 10000

DWT_{S,SERVICE}: 80000

SAVE CALCULATE RESET



5) Alternative Speed calculation

This option can be selected where the Speed-Power curve is not available or the sea trial report does not contain the EEDI or design load draft condition.

If you click the calculation button after Engine Power at MCR, the ship speed is automatically calculated and displayed in the red field, and a point plotted on the speed-power curve.

TEST SHIP ✓ EPL IMO No 0000001 | Ship type Tanker

Ship Particular **Ship Speed** Calculation

SAVE CALCULATE

SHIP SPEED CALCULATION TYPE

Speed-Power Curve at EEDI draught
 Speed-Power Point at Design draught
 Alternative Speed calculation

RESET

Engine Power at MCR: 10000

Ship Speed at 75% of MCR: 13.158

TEST SHIP ✓ EPL IMO No 0000001 | Ship type Tanker

Ship Particular **Ship Speed** Calculation

SAVE CALCULATE

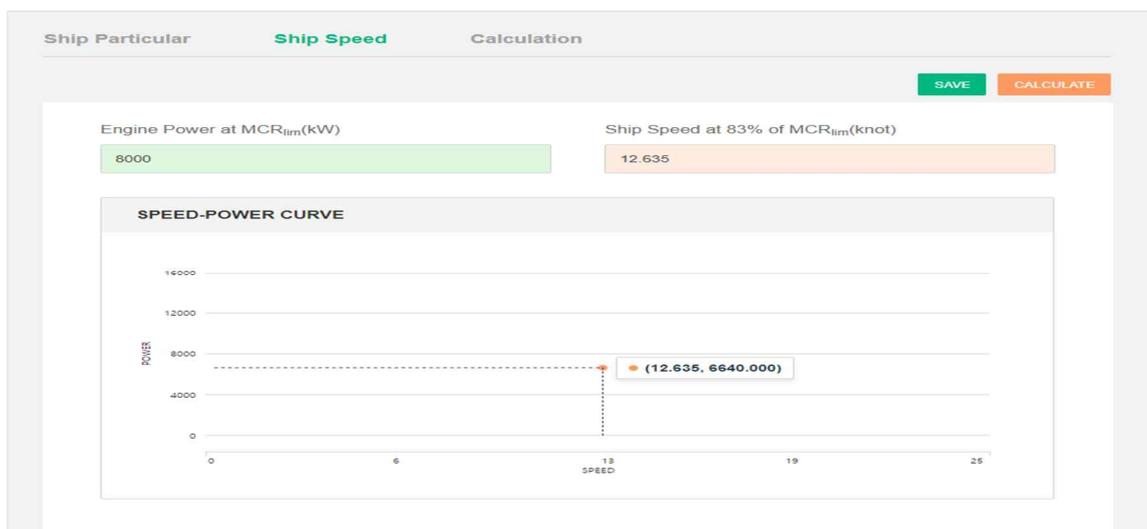
SHIP SPEED CALCULATION TYPE

Speed-Power Curve at EEDI draught
 Speed-Power Point at Design draught
 Alternative Speed calculation

RESET

Engine Power at MCR_{lim}(kW): 8000

Ship Speed at 83% of MCR_{lim}(knot): 12.635



When the Use Speed Power Curve at EEDI draught is selected, if you adjust the Engine Power at MCR and pressing the arrow, then corresponding speed value can be calculated.

(Conversely, if you press the arrow after adjusting the speed, the corresponding Engine Power at MCR value can be calculated)

The screenshot shows the 'SHIP SPEED' calculation interface. At the top, it says 'TEST SHIP' with a dropdown menu set to 'EPL'. On the right, it displays 'IMO No 0000001 | Ship type Tanker'. Below this are three tabs: 'Ship Particular', 'Ship Speed', and 'Calculation'. The 'Ship Speed' tab is active. There are two buttons: 'SAVE' (green) and 'CALCULATE' (orange). Under the heading 'SHIP SPEED CALCULATION TYPE', there are four radio button options: 'Speed-Power Curve at EEDI draught' (selected), 'Speed-Power Point at EEDI draught', 'Speed-Power Point at Design draught', and 'Alternative Speed calculation'. A 'RESET' button is located to the right of these options. Below the options, there are two input fields. The first is 'Engine Power at MCR' with a value of '10000'. The second is 'Ship Speed at 75% of MCR' with a value of '13.778'. A red box highlights a double-headed arrow between the two input fields, indicating a bidirectional relationship.

If the user knows the speed value, you can directly input the speed value manually.

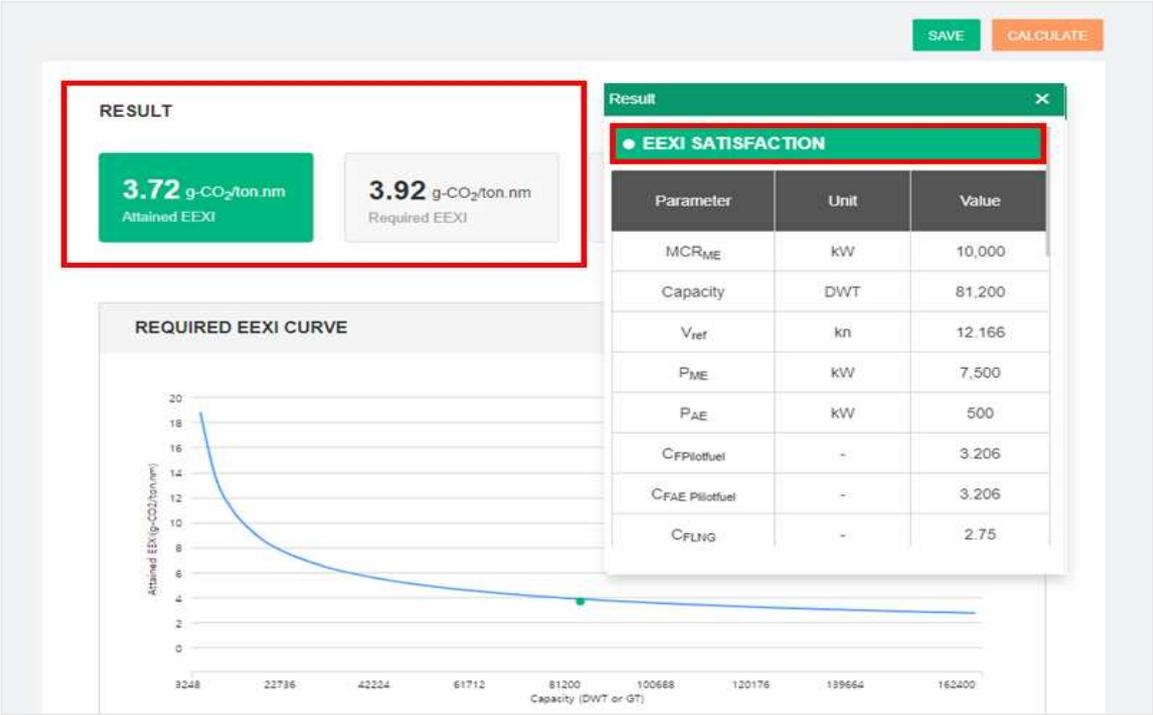
This screenshot shows the same 'SHIP SPEED' calculation interface. The 'Engine Power at MCR' field is highlighted in green and contains the value '10000'. The 'Ship Speed at 75% of MCR' field is highlighted in blue and contains the value '14'. A double-headed arrow is positioned between the two fields, indicating that the user can manually input the speed value.

6. Calculation

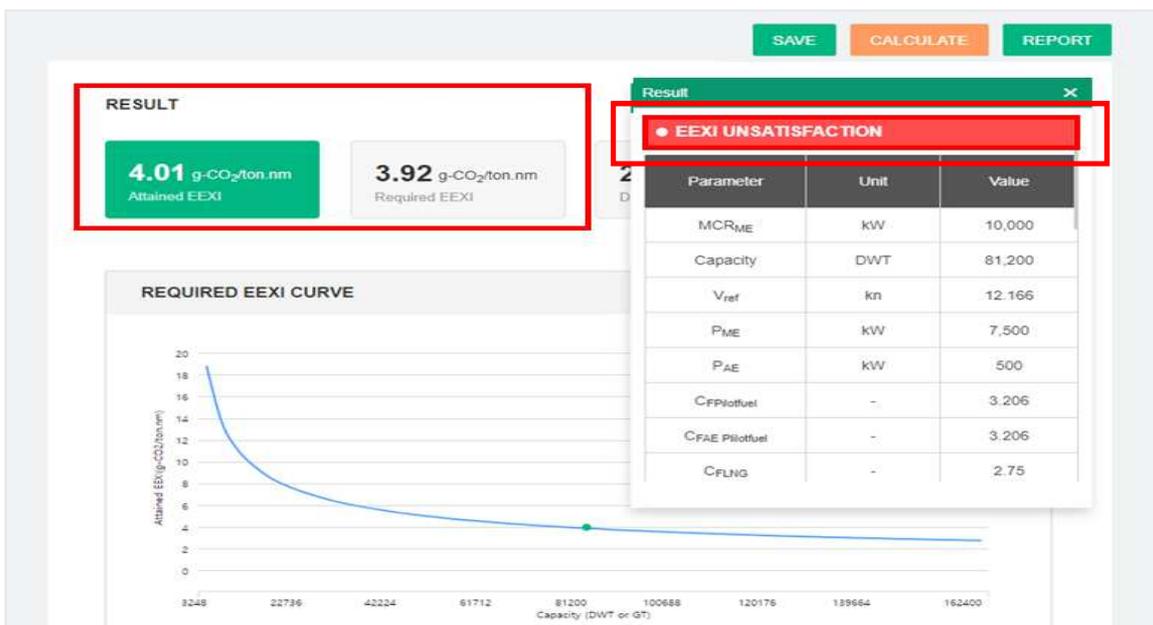
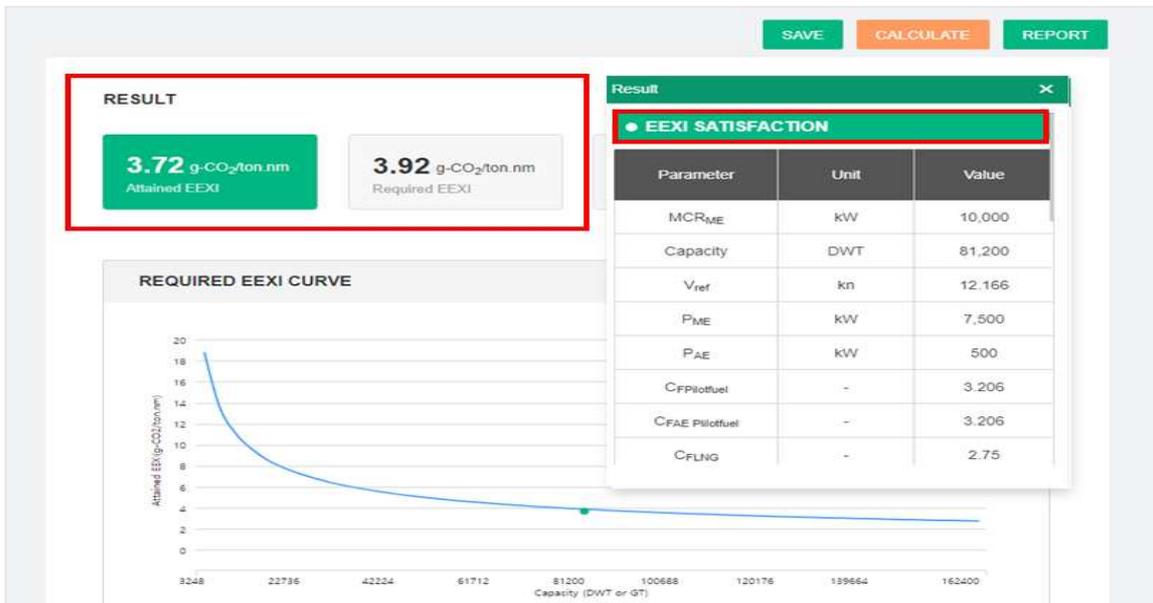
Based on the ship's specifications entered on the Ship Particular tab and ship's speed calculated on the Ship Speed tab, the EEXI result value can be calculated on the Calculation tab.

- 1) When you click the calculate button, the attained and required EEXI value is calculated through the information entered on the Ship Particular / Ship Speed tab, and the result used in the calculation is displayed in the pop-up.

When EPL is applied, EEXI is calculated as the EPL applied value.



- 2) If the Attained EEXI value is less than or equal to the Required EEXI value, In the pop-up window, the text 'EEXI SATISFACTION' is displayed with a green light. Conversely, if the Attained EEXI value is greater than the Required EEXI value, In the pop-up window, the text 'EEXI UNSATISFACTION' is displayed with a red light.



- 3) Check the Dual checkbox in Main Engine / Auxiliary Engine, values that were not required data become required data, indicating data entry, and creating an additional information window.

TEST SHIP IMO No 1236547 | Ship type tanker

Ship Particular Ship Speed **Calculation**

SAVE **CALCULATE**

MAIN ENGINE (S)

Fuel type Diesel/Gas Oil Fuel type (pilot fuel) Select

Dual	Power at MCR (kW)	SFC at 75% MCR(g/kWh)	SFC (LNG for Dual fuel) [g/kWh]	SFC (Pilot fuel for Dual fuel)[g/kWh]
<input checked="" type="checkbox"/>	15000	80	!	!
<input type="checkbox"/>				
<input type="checkbox"/>				

AUXILIARY ENGINE (S)

Fuel type Diesel/Gas Oil Fuel type (pilot fuel) Select

Dual	Power at MCR (kW)	SFC at 50% MCR(g/kWh)	SFC (LNG for Dual fuel) [g/kWh]	SFC (Pilot fuel for Dual fuel)[g/kWh]
<input type="checkbox"/>	600	220		
<input type="checkbox"/>				

TEST SHIP IMO No 1236547 | Ship type tanker

Ship Particular Ship Speed **Calculation**

SAVE **CALCULATE**

ADDITIONAL INFORMATION

	Tank Volume	Density	Low calorific value	Filling rate
LNG	!	450	48000	0.95
HFO	!	991	40200	0.98
MDO	!	900	42700	0.98

4) At the Bottom of the calculation tab, there is a function to calculate the correction factor applied to each specific ship type. Add and reset is possible with the +/- icon.

CORRECTION FACTOR

f_{CSR} + -

f_c + -

5) If you click the +button next to the correction factor, a window where you can calculate the correction factor appears. After input the required data, press the calculate button to automatically calculate the correction factor, and click the SAVE button to save the calculated value.

ficsr

tanker

ficsr : ships under common structural rules(CSR)

Light weight(ton)	Deadweight(ton)	ficsr
450000	150000	1.24

CALCULATE

Light weight

Ship's light weight

Unit: ton Range: 100 - 500000

CANCEL SAVE

6) If you save all the additionally input data and click the CALCULATE, the values are reflected and EEXI is re-calculated

TEST SHIP EPL IMO No. 0000001 | Ship type: Tanker Calculation : Complete

Ship Particular Ship Speed **Calculation**

SAVE CALCULATE

RESULT

3.68 g-CO₂/ton.nm
Attained EEXI

3.92 g-CO₂/ton.nm
Required EEXI

-6.02 %
Difference

20 %
Applied Reduction

REQUIRED EEXI CURVE

Reference line Attained EEXI

Result

EEXI SATISFACTION

Parameter	Unit	Value
MCR _{ME}	KW	10,000
Capacity	DWT	81,200
V _{ref}	kn	12.166
P _{ME}	KW	7,500
P _{AE}	KW	500
CF _{Pilotfuel}	-	3.206
CF _{AE Pilotfuel}	-	3.206
CF _{LNG}	-	2.75

7) If you click the SAVE button after checking the calculated value, the REPORT button is activated. When you click the REPORT button, a report reflecting the calculation result is output.

EEXI RESULT



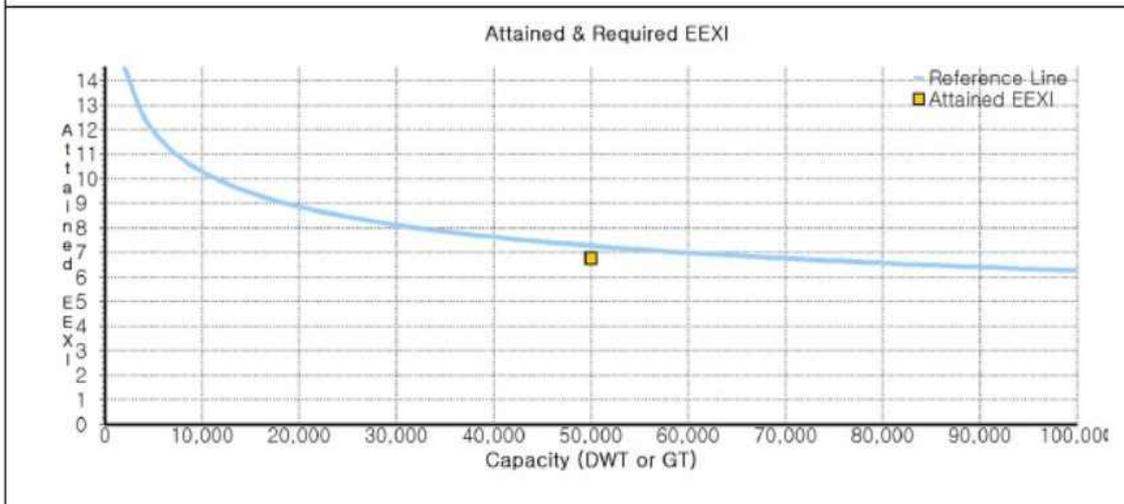
Ship Name	IMO No.	Ship Type	DWT
bc-TEST-general	8877665	General cargo ship	50,000

CALCULATED PURSUANT TO

- 2021 GUIDELINES ON THE METHOD OF CALCULATION OF THE ATTAINED ENERGY EFFICIENCY EXISTING SHIP INDEX (Res. MEPC.333(76))

	MCR (or EPL)	Att. EEXI	Req. EEXI	Att. / Req. -1 (%)	Vref	SFC for M/E	SFC for A/E
Before EPL	20,000	9.63	7.27 30.00%	32.46	18.307	190.00	215.00
After EPL	10,000	6.77	7.27 30.00%	-6.88	15.029	190.00	215.00

The calculated Att. EEXI value (Before EPL) of the ship is not satisfied with the Req. EEXI value. As a result of the calculation, the ship owner should find the cost-effective solutions such as EPL or ESD.



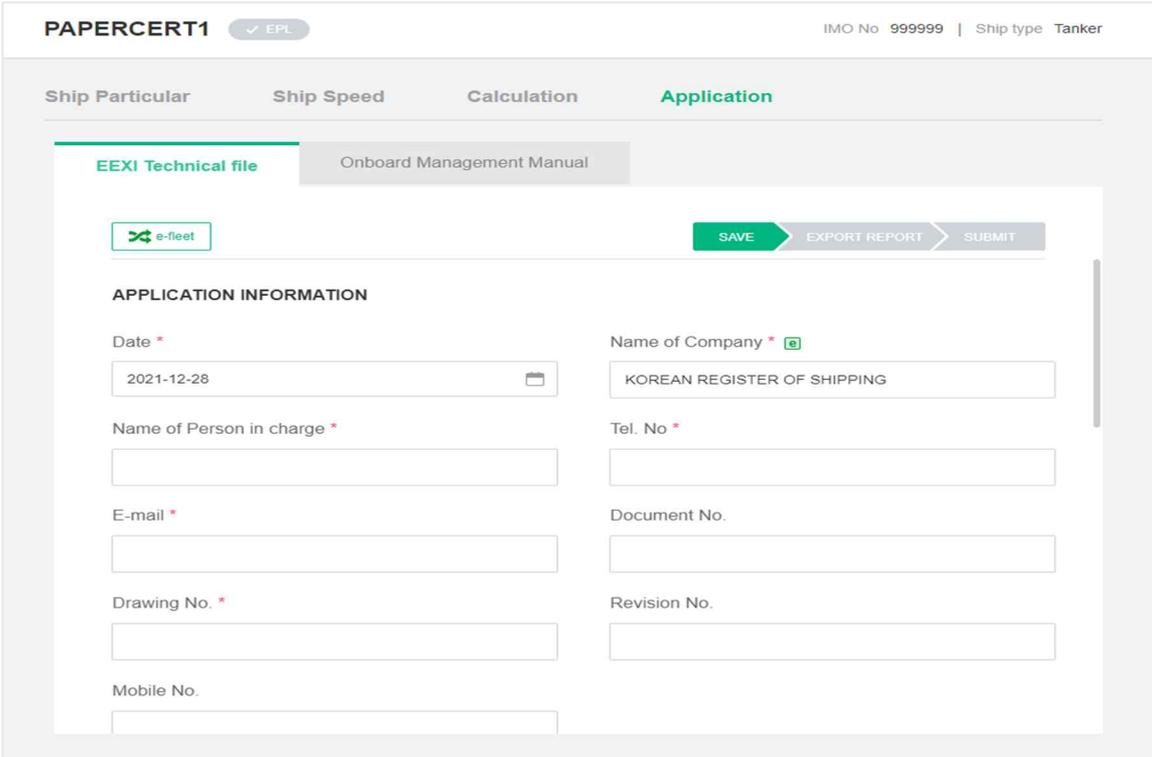
CONDITIONS OF CALCULATION

- EEXI value is calculated according to IMO GUIDELINES ON THE METHOD OF CALCULATION OF THE ATTAINED ENERGY EFFICIENCY EXISTING SHIP INDEX (EEXI).
- Format of this document is only summary of EEXI calculation result and this is not format of EEXI technical file.

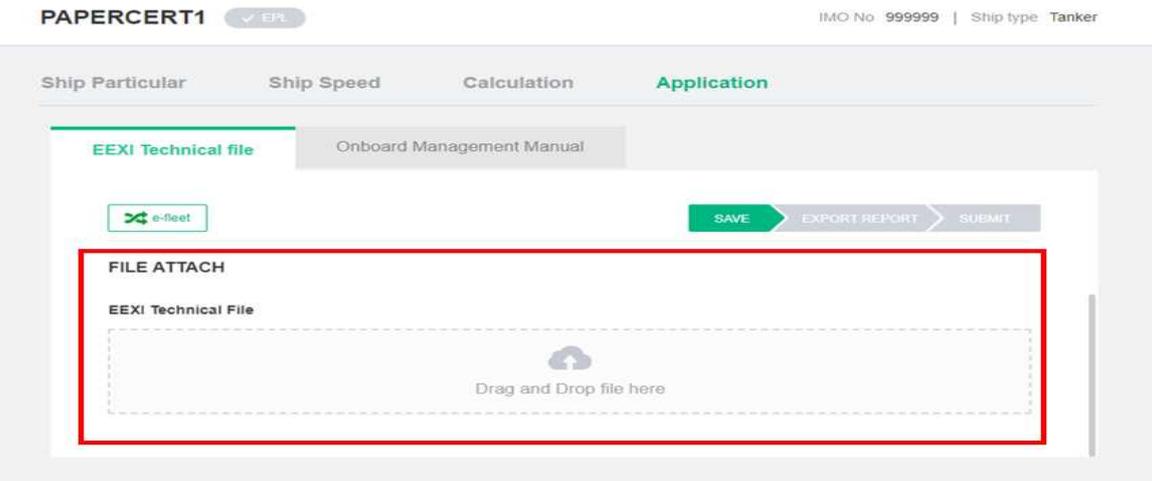
7. Make drawings & Submit for approval

You can submit an application for the EEXI Technical File and Onboard Management Manual on the this tab, and filling out, saving, and submitting the application letter for drawing approval is performed separately for each tab.

- 1) Click the tab where you want to fill out the application form and enter the required data.



- 2) Attach the necessary files to submit the application. (Only PDF files can be attached)



3) When writing the Onboard Management Manual, if the application information is the same as the data written in the EEXI Technical File, you can synchronize the data by clicking the 'LOAD EEXI tech.file' button.

PAPERCERT1 ✓ EPL IMO No 999999 | Ship type Tanker

Ship Particular Ship Speed Calculation **Application**

EEXI Technical file **Onboard Management Manual**

e-fleet Load EEXI tech.file SAVE EXPORT REPORT SUBMIT

APPLICATION INFORMATION

Date *	2021-12-28	Name of Company *	KOREAN REGISTER OF SHIPPING
Name of Person in charge *	Name	Tel. No *	Tel. No.
E-mail *	123@123.123	Document No.	123
Drawing No. *	123	Revision No.	123
Mobile No.	123		

4) When you click the Save button, the Export report button is activated, and when you click the button, a drawing is created based on the created data.

Ship Particular Ship Speed Calculation **Application**

EEXI Technical file Onboard Management Manual

e-fleet SAVE EXPORT REPORT SUBMIT

APPLICATION INFORMATION

Date * Name of Company *

2021-12-01 123

Name of Person in charge * Tel. No *

12 123

E-mail * Document No.

123@123.123 132

Drawing No. * Revision No.

123 123

Mobile No.

123-123-1234

Report Preview

ISWG-GHG S/WP.1
Annex 2, page 8

APPENDIX
SAMPLE OF EEXI TECHNICAL FILE

1 Data

1.1 General information

Shipowner	XXX Shipping Line
Shipbuilder	XXX Shipbuilding Company
Hull no.	12345
IMO no.	94112XX
Ship type	Bulk carrier

1.2 Principal particulars

Length overall	250.0 m
Length between perpendiculars	240.0 m
Breadth, moulded	40.0 m
Depth, moulded	20.0 m
Summer load line draught, moulded	14.0 m
Deadweight at summer load line draught	150,000 tons

1.3 Main engine

Manufacturer	XXX Industries
Type	6J70A
Maximum continuous rating (MCR ₉₅)	15,000 kW x 80 rpm
Limited maximum continuous rating with the Engine Power Limitation installed (MCR _{95,lim})	9,940 kW x 70 rpm
SFC at 75% of MCR ₉₅ or 83% of MCR _{95,lim}	166.5 g/kWh
Number of sets	1
Fuel type	Diesel Oil

1.4 Auxiliary engine

Manufacturer	XXX Industries
Type	5J-200
Maximum continuous rating (MCR ₉₅)	600 kW x 900 rpm

5) When drawing creation is complete, you can submit an application by clicking the SUBMIT button. The drawing and application are submitted together when you click the SUBMIT button.

EEXI Technical file

Onboard Management Manual



SAVE

EXPORT REPORT

SUBMIT

APPLICATION INFORMATION

Date *

2021-12-01

Name of Company *

123

Name of Person in charge *

12

Tel. No *

123

E-mail *

123@123.123

Document No.

132

Drawing No. *

123

Revision No.

123

Mobile No.

123-123-1234

Application Preview

SUBMIT

PRINT

PAPERCERT1

Doc No	132
Date	2021-12-01T 15:00:00
Subj.	Drawing submission for approval.
IMO No.	2030000

We are pleased to submit the drawing and or document as listed below. Please return the drawing and or document approved or reviewed with remarks, if any.

DWG. No.	REV. No.	Description
123	123	EEXI Technical File

If you wish to contact the person in charge of drawing, please contact :

12

Tel 123
E-mail 123@123.123

Please charge the tariff to the following company and E-mail address :

132

E-mail

6) The progress of drawing approval can be checked by being linked to the main page.

SHIP LIST

Search: Filter Search

No.	Ship Name	IMO No.	Complete	Update	EEXI Status	OMM Status
1	PAPERCERT1	999999	SP IS C AP	2021-12-27	PROCESSING	PROCESSING
2	Application test	9960000	SP IS C AP	2021-12-27	PROCESSING	PROCESSING
3	AppTest	1523634	SP IS C AP	2021-12-22	PROCESSING	

SHIP TYPE CHART

98 Total Ship

TOP 5.

Ship Type	Number	Percentage
Bulk carrier	35	35.7%
Tanker	12	12.2%
LNG carrier	8	8.2%
General cargo ship	7	7.1%
Gas carrier	6	6.1%

8. EEXI User Log

On the log tab, you can check the user's history of using the EEXI program, and the history is divided into SEARCH, INSERT, SAVE, and DELETE.

USER LOG

Filter Search Company Name: 2021-12-31 - 2021-12-31 Search EXPORT LIST

User ID	Service List	Target	Status	Date	Company	IP
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T13:44:30.44	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T13:45:17.447	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T13:46:13.48	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T15:22:06.353	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T15:22:09.213	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T15:22:55.25	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T14:27:00.61	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T14:36:02.24	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T14:38:36.49	POS SM(GEARS)	211.197.141.251
test_possm	PARTICULAR	LIST	SEARCH	2021-12-31T14:38:38.613	POS SM(GEARS)	211.197.141.251

Page 1 of 1 (10 items) < 1 >

<End>