

# How to find fuel-efficient ships by HiFleet shipping data products?

With the soaring oil and bunker prices, the fuel cost control of the voyage becomes more important. Although the Speed and Consumption Warranties can provide the protection and certainty at some extent, experienced charterers will make judgments in various ways to choose the proper ships, especially by using shipping data products. A series of shipping data products launched by HiFleet can accurately and efficiently assist users to know the regional vessel supply, locate target ships, read engine parameters, and estimate fuel consumption.

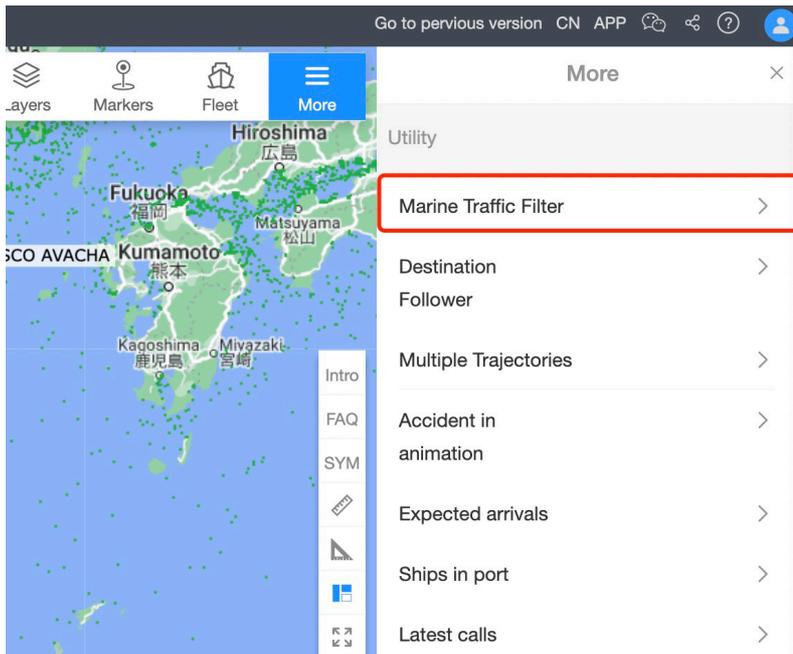
## **Step 1: Filter the fleet to find target ships by “Marine Traffic Filter” and “Destination Follower”**

HiFleet has launched the data product "Marine Traffic Filter", which could select ships in specific areas, and the "Destination Follower", which could monitor the ETA of ships destinating to various ports in real time. You could use the "Marine Traffic Filter" to filter the fleet by category, status, draft, DWT and flag in any areas, and use the "Destination Follower" to quickly obtain the list of pre-arrival ships, ETA and other important information by customized selection. Through real-time monitoring ports and ships, "Marine Traffic Filter" and "Destination Follower" could:

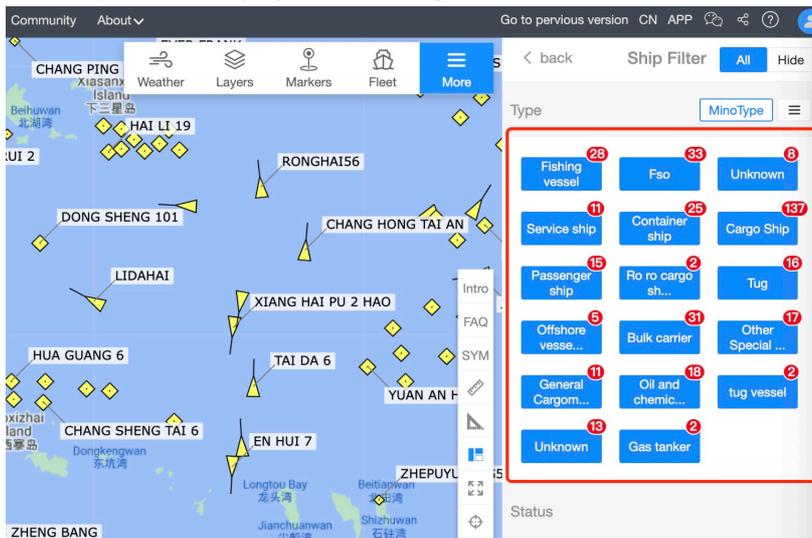
- Assist shippers and carriers to obtain the (pre-arrival) ship list and understand the regional ship supply, contributing to the negotiation of charter party and the trading opportunities.
- Assist freight forwarders and cargo owners to monitor the ETA of the goods and the status of the ship in real time.
- Assist operators to acknowledge the ship's ETA/ETB/ETC/ETD, optimize the vessel speed, save fuel consumption, minimize the waiting time, and improve the turnover of fleet.

### The user's guidance of “Marine Traffic Filter”

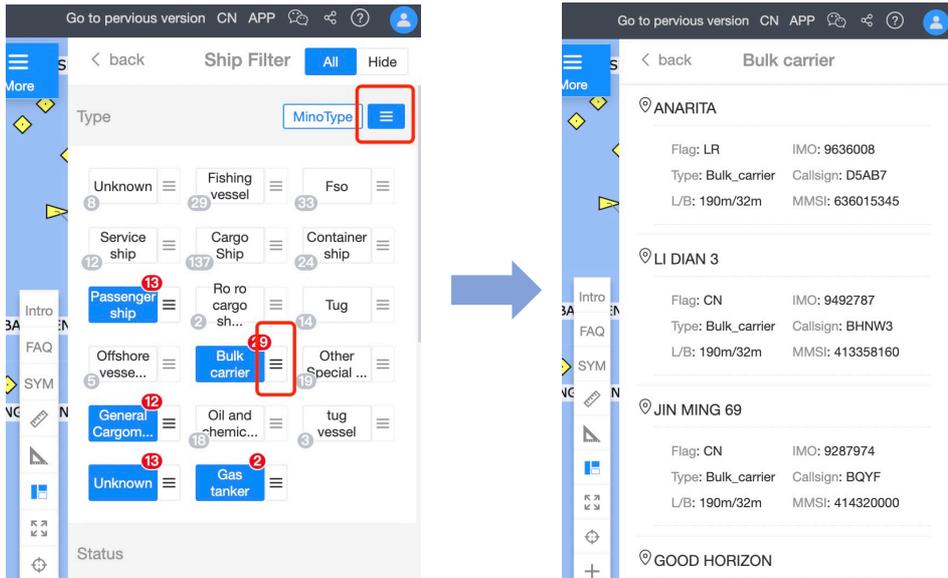
- Login into HiFleet account, select “More” in the upper right corner and click “Marine Traffic Filter” .



- Zoom in on the map at the target location until the ship symbol (triangle and square) is displayed. At the same time, the information such as the number and type of ships in the map will be displayed on the right.

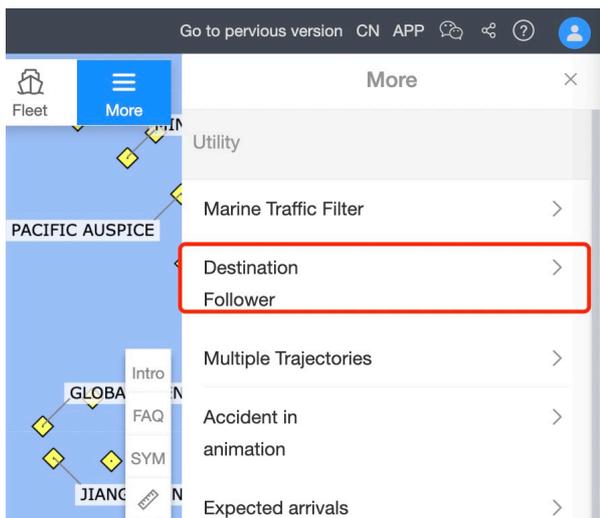


- Click the blue icon on the right to filter the ship you need. The items you can filter include ship category, status, draft, DWT and flag. The ships displayed on the map will synchronize.
- Click the icon “≡” to get the fleet list

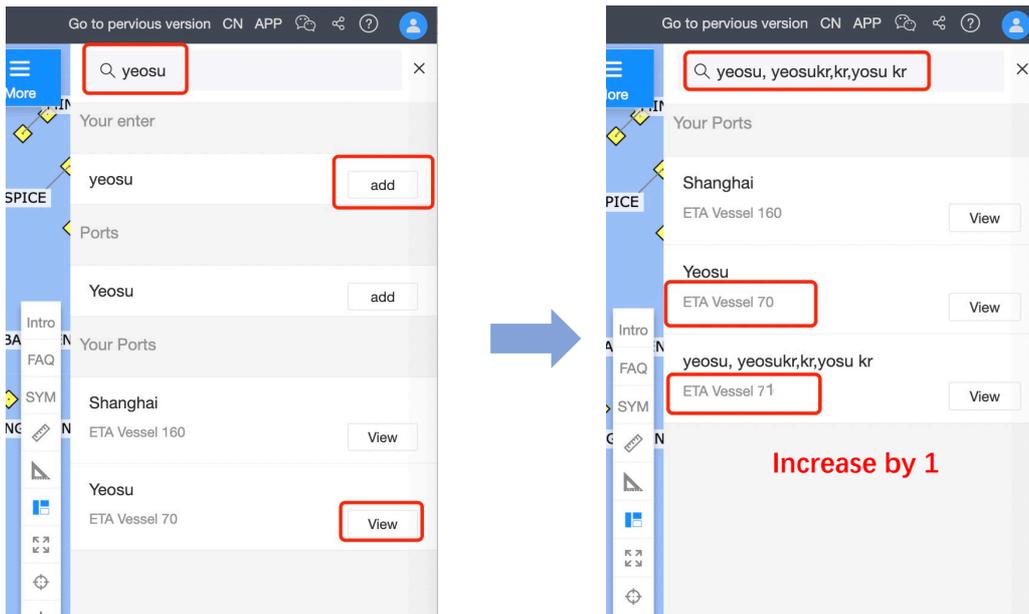


The user's guidance of "Destination Follower"

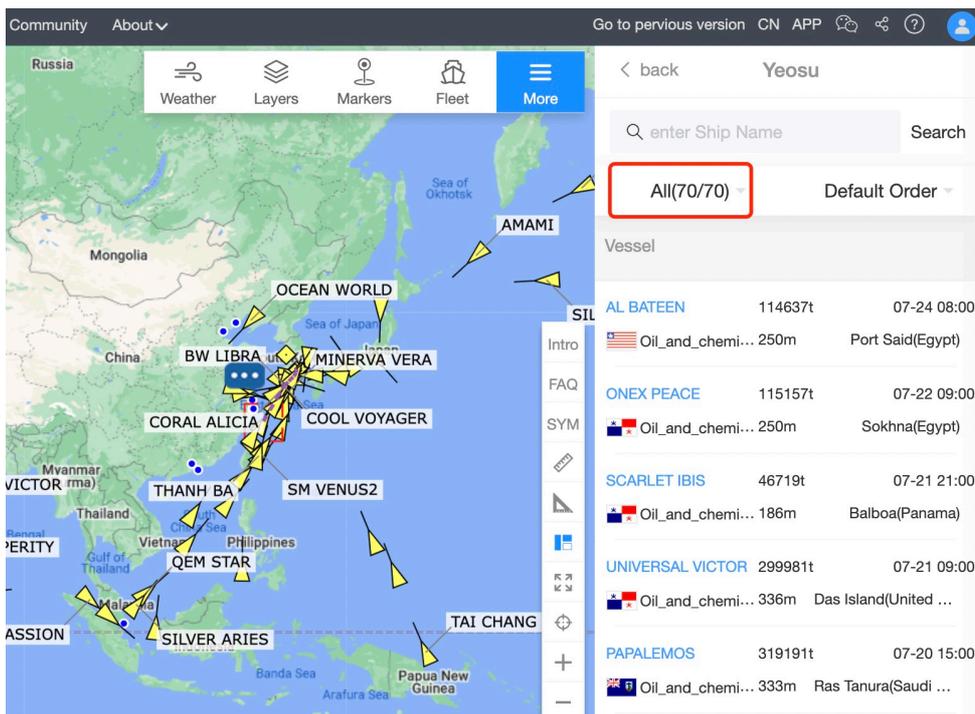
- Login into hiFleet account, select "More" in the upper right corner and click "Destination Follower"



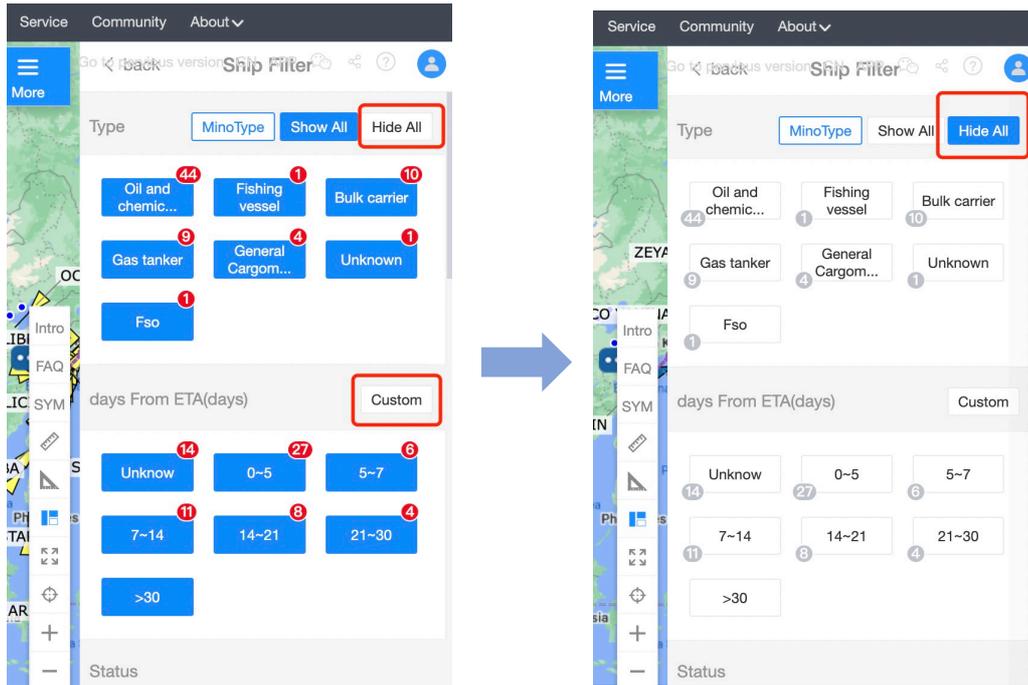
- Enter the port name of destination in the upper right corner. Users can enter the port name according to their own habits for fuzzy search, or add multiple aliases to expand the search scope (separate the name with "," when searching, see the example below).
  - Click "Add" and the port will be added to the watchlist. The total number of pre-arrival ships will be displayed in the watch list.
  - Click "View" to enter the list of pre-arrival ships.



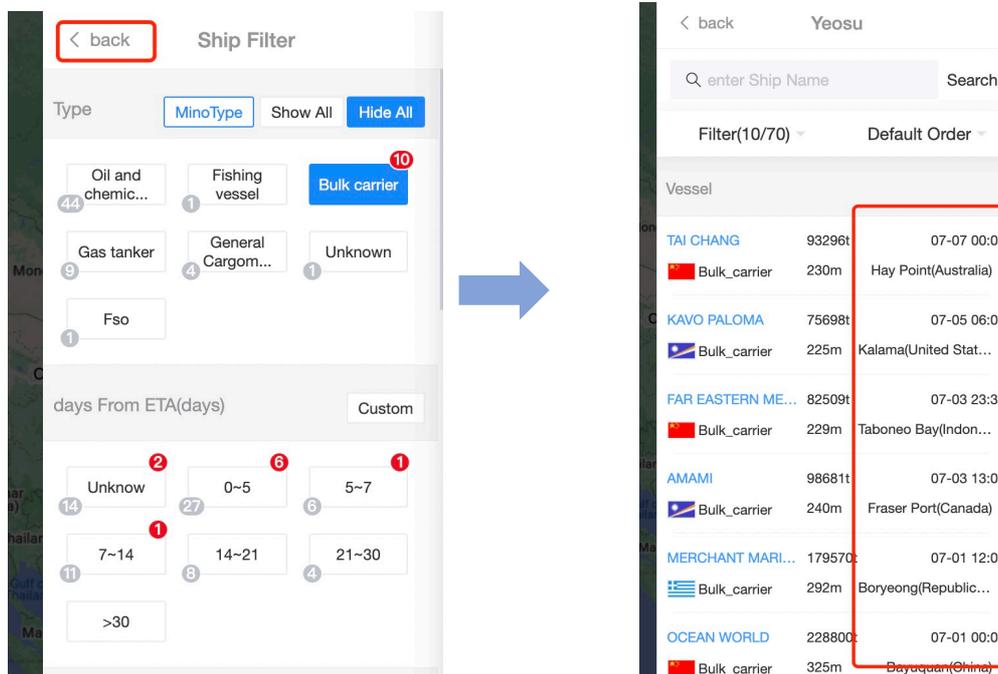
- The list of pre-arrival ships will be displayed as well as the location of the ships on the map. Click "Filter" to select the ship specifics, and choose "Default Sort" to customize the order of the list.



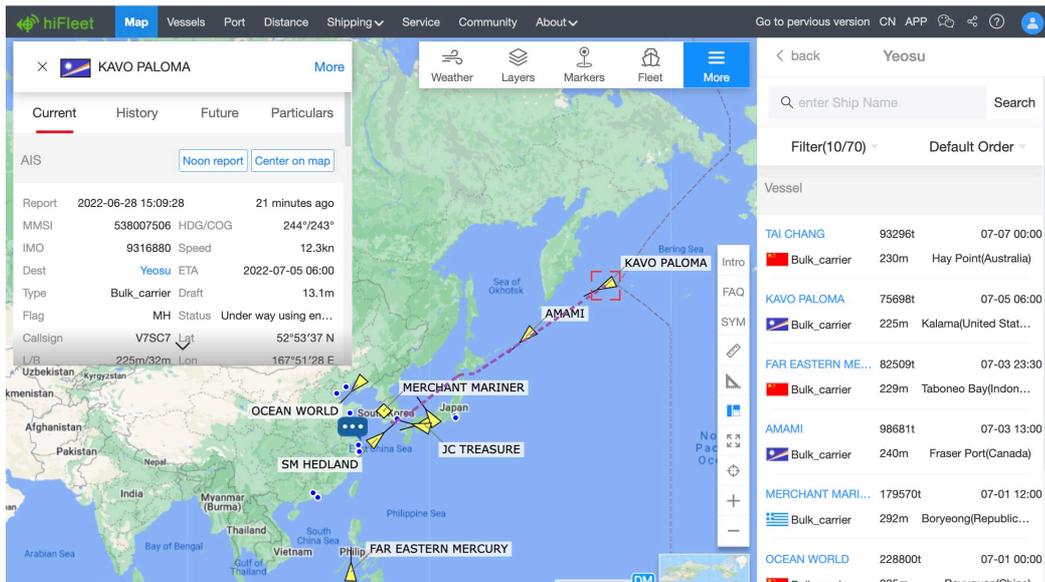
- After click "All" entering the next page, you can filter specifics such as ship category, pre-arrival time, ship status, draft, length, DWT, previous country of call, and ship flag according to your needs.
  - a) Click "Hide All" to clear all options before making a selection.
  - b) Click "Custom" to customize the filter range.



- After filtering the ships as required, click "Back" to return to the list of pre-arrival ships. Ships that meet the requirements will be displayed in the list with ship name, last port of call, ETA and other information. The AIS location will also show on the map.



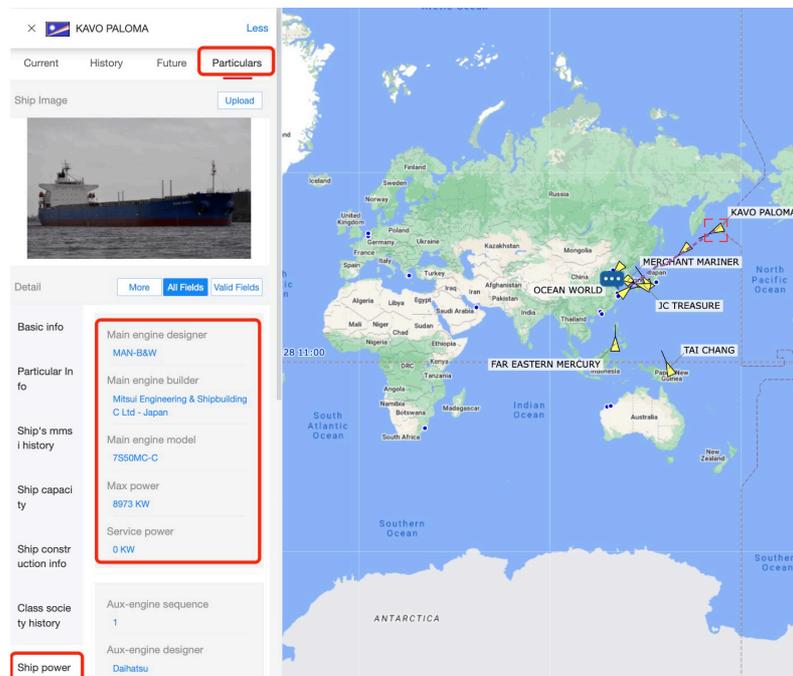
- Click on the name of the ship in the list, the information of the ship will pop up, and its estimated route will be displayed on the map.



## Step 2: Use HiFleet "Ship Profile" to get the ship's main engine parameters and other important information

HiFleet ship archives provide comprehensive information, photos and latest news on almost all ships. After confirm the target ships, users can quickly get the ship's main engine parameters and other important information through the HiFleet "Ship Profile".

Users can enter the ship name, call sign, MMSI or IMO in the upper left corner of the HiFleet electronic map to search the target ship, and then select "Particulars" -> "Ship Power" to read the information regarding the ship's main engine and auxiliary engine.

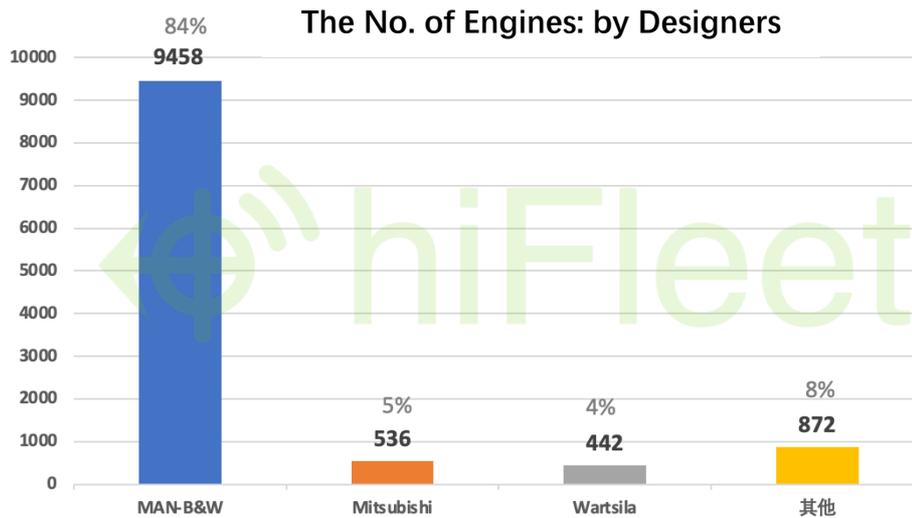


### Step 3 : Understand the main engine parameters and compare the bunker consumption

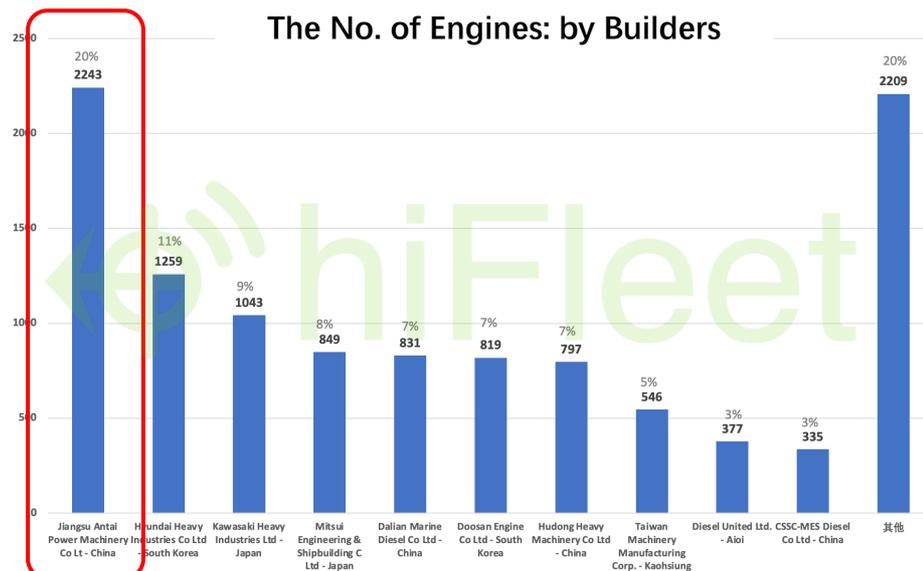
Taking bulk carriers as an example, HiFleet ship archives have collected detailed information on 11,308 bulk carrier main engines and made a preliminary statistical analysis on them.

#### The designer, manufacturer, main model and speed of bulk carrier main engines

- The main engines of bulk carriers are designed by three major designers: Man-B&W, Mitsubishi and Wartsila, which together account for 92% of the total.

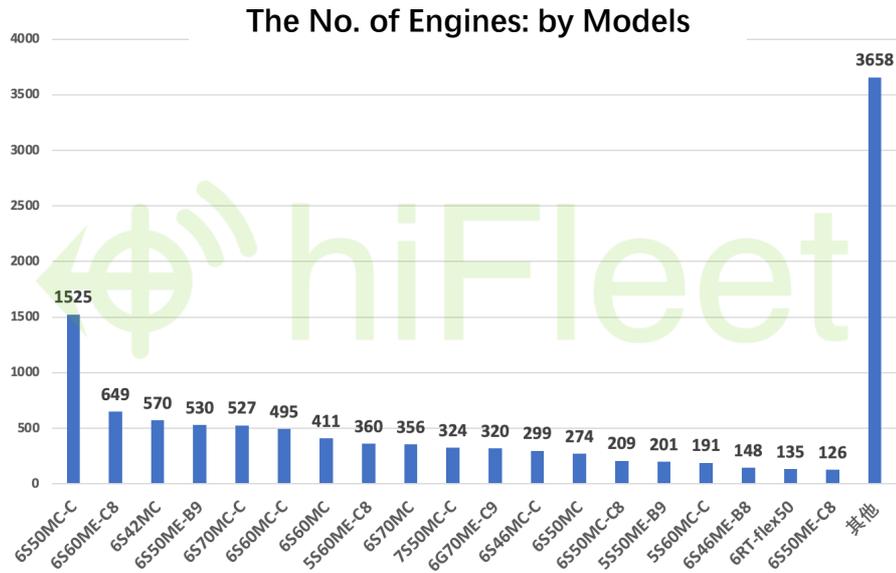


- There are many manufacturers of main engine, which are relatively scattered. They are mainly companies in China, Japan and South Korea. Jiangsu Antai Power Machinery produces the largest number of main engines, accounting for 20% of the total.

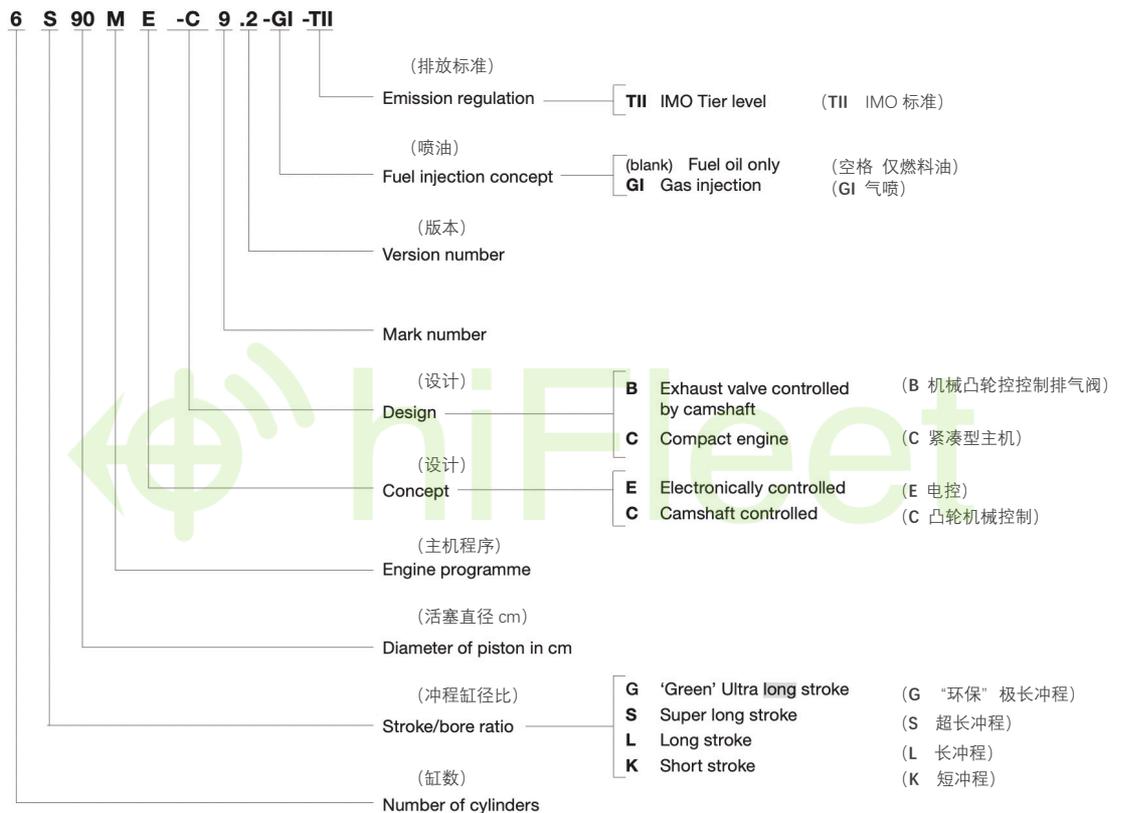


- The following graph lists the models and quantities of dry bulker main engines. There are many types of models. The common ones are 6S50MC-C, 6S60ME-C8, 6S42MC,

6S50ME-B9 and so on.

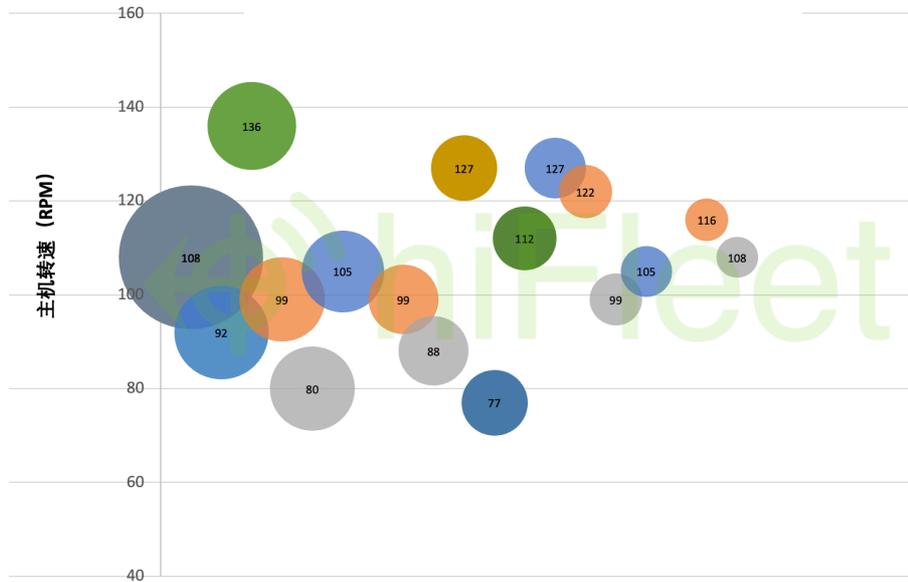


– Engine type designation.



– The model and output speed: The output speed of the Top 20 engine models ranges from 77 to 136, and the average speed is about 100 rpm.

## Top 20 models and output speed



Note: the size of circle indicates the number, the within figure is the output speed

### How to estimate the fuel-efficiency basing on the model designation?

- There are multiple factors affecting fuel consumption, including speed, operation management, meteorology, hydrology, etc. The main engine is also one of the most important reasons. By reading the model designation, we can understand its main characteristics. Let's take “Man B&W 12K98ME-C7” as an example:

Main Engine Model:	Man B&W 12K98ME-C7	The other models	Note
Designer	Man B&W	Mitsubishi Heavy Industries Wärtsilä	Man B&W, Mitsubishi, Wärtsilä are three major designers
The No. of Strokes	2	4	Generally 2 strokes are more fuel efficient than 4 strokes
The No. of Cylinders	12	7 9 ...	The more cylinders, the greater the output power
Stroke/bore ratio	K (Short stroke)	L (Long stroke) S (Super long stroke)	Short-stroke engine revs higher and can output more power
Diameter of piston in cm	98	50 60 ...	Large piston size for more power
Concept	ME (Electronically controlled)	MC (Camshaft controlled)	ME electronic control is easier to operate and more fuel efficient than MC mechanical control
Design	C (Compact engine)	B (Exhaust valve controlled by camshaft)	
Version	7	8 ...	The higher the number, the newer the version
Outoup speed	Low speed 80-120 rpm	Low speed 22-102 rpm	Generally low speed is more fuel-efficient than high speed

**Under similar conditions, a ship with a two-stroke, electronically controlled, low-speed main engine is likely to be more fuel efficient.**