

MARINE CAPABILITY

Torishima - Marine Pumps



PT TORISHIMA GUNA INDONESIA



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**NO FLUID,
NO LIFE.**



HIGH PERFORMANCE AND RELIABLE PUMP SOLUTIONS FOR MARINE APPLICATION

www.torishima.co.id

PT Torishima Guna Indonesia is a joint venture between Torishima Pump Mfg., Co., Ltd. of Japan and PT Guna Elektro of Indonesia. Since its establishment in 1984, PT Torishima Guna Indonesia has been serving a wide range of product requirements and customers – from handling clean water system to handling high slurry content liquid ; from installing cooling and heating facilities in high-rise buildings to providing pump systems in remote areas.

In the industries known for its demand of excellent services, PT Torishima Guna Indonesia holds great pride of being widely acknowledged as the reliable pump manufacturer. As a learning organization, our capabilities are strengthened with corporate culture in continuous improvement and a commitment to excellence. PT Torishima Guna Indonesia is a certified ISO 9001 : 2015, ISO 14001 : 2004 and OHSAS 18001:2007, BKI and by applying Total HES Management, Quality Management, PT Torishima Guna Indonesia assures to protect and maintain as safety and healthy and always deliver excellent products and outstanding services. PT Torishima Guna Indonesia is the only local company which provide various kinds of the best quality local pumps, internationally standardized and having TKDN Certificates.

Our solutions are engineered in response to the challenge of the industry. By using state-of-the-art manufacturing facilities, PT Torishima Guna Indonesia is capable of producing world-class industrial pump product ranges including End Suction, Multi-Stage, High Pressure, Double Suction and Vertical Mixed Flow Pumps. PT Torishima Guna Indonesia has established strong sales and distribution network by building dealerships and other sales channels, which in turn can serve all our customers' needs. PT Torishima Guna Indonesia is currently distributing both standard and tailor-made industrial pumps not only in the Indonesian market but also throughout the South East Asia Region. In compliance with Torishima's policy, we provide international warranty service that is provided for every product.



**Kementerian
Perindustrian
REPUBLIK INDONESIA
TKDN**





Ballast Water Pump

Suitable Type of Pump : CEN, CAL, CAR, CDM

Ballasting and de-ballasting process will be done depend on vessel ongoing conditions during loading, off-loading and trim of the vessel for stability purpose. For ballast system, Torishima end suction volute pump provided the end user with a long lasting and reliable pumps at better energy saving. Our pump has optional feature with the possibility to remove the internal of the pump without dismantling pipes or even removing the electric motor.

Bilge Water Pump

Suitable Type of Pump : CEN, CAL, CAR, CDM

Clean bilge system required in case of vessel grounding and the sea water managed to breakthrough inside the ship's compartment under waterline. Bilge pump will pump out the water as the ship's keep moving on to nearest port. TORISHIMA double suction centrifugal pump is best suited for such operation with it's high suction capability.

Equipped with the most advanced hydraulic, providing less noise and vibration, wider operation range, lower NPSH required and higher efficiency. Additional air ejector can be provided so the pump can be self-priming as the class rules requirements. Our pump has optional feature with the possibility to remove the internal of the pump without dismantling pipes or even removing the electric motor.

General Service Pump

Suitable Type of Pump : CEN, CAL, CAR, CPR

Many vessels owner preferred having a general service pump which can be used for many applications such as e.g. bilge, ballast, fire or stand by cooling in regards of economic efficiency. TORISHIMA end-suction heavy duty process pump is most obvious choice for such requirement. High versatility and reliability are the result of the simple, robust design which meets the requirements and recommendations of API. Our product have a wide range of pumps for various combinations and dual duty point operation. We can simply choose the correct pump curve for the job.

Fire Hydrant Pump

Suitable Type of Pump : CEN, CAL, CAR, CPR

Fire pump for main hydrant system is a mandatory by Class Rules and SOLAS requirements. TORISHIMA end-suction heavy duty process pump is most obvious choice for such requirement, be it on 2 or 3 pumps configuration as the ship's piping design. High versatility and reliability are the result of the simple, robust design which meets the requirements and recommendations of API. Additional air ejector can be provided so the pump can be self-priming as the class rules requirements. Our pump has optional feature with the possibility to remove the Internal of the pump without dismantling pipes or even removing the electric motor.

Fire Jockey Pump

Suitable Type of Pump : MMO

Ship's internal fire-fighting system required fire jockey pump to ensure always ready pressured sprinkle waterline especially in accommodation area. TORISHIMA recommend our horizontal multi-stage pump depend on customer installation preferences, the pump can also be customized on the discharge and suction outlet orientation to best suited the system pipe arrangements. Our pump has optional feature with the possibility to remove the internal of the pump without dismantling pipes or even removing the electric motor.

Emergency Fire Pump

Suitable Type of Pump : CEN, CAL, CAR, CPR

Having fire break out in Engine room or the main fire pump break down during fire break out in accommodation area is the worst thing that can happen to a vessel besides going down. Separately place diesel driven Emergency Fire pump must running quickly to the rescue. TORISHIMA end-suction heavy duty process pump is most obvious choice for such requirement. High versatility and reliability are the result of the simple, robust design which meets the requirements and recommendations of API. Additional air ejector can be provided so the pump can be self-priming as the class rules requirements.

Sprinkle Pump

Suitable Type of Pump : CEN, CAL, CAR, CPR

Having one single - purpose stand by SW Sprinkle pump is a mandatory by the Class rules and SOLAS requirements. This pump will deliver sea water into the sprinkle pipeline once the pressurized fresh water in sprinkle tank running low and losing its pressure. The pump need to be equipped with auto-start facility connected to the sprinkle tank discharge line. TORISHIMA end-suction heavy duty process pump is most obvious choice for such requirement. High versality and reliability are the result of the simple, robust design which meets the requirements and recommendations of API. Additional air ejector can be provided so the pump can be self-priming as the class rules requirements.

FW Spray Pump

Suitable Type of Pump : CEN, CAL, CAR, CPR, CAM

Installation of a dedicated automatic sprinkle system always poses a problem for small vessel as they have to provided a 2800L hydrophore tank. Which will increase the ship's weight significantly. A semi-automatic internal spray system with empty non-pressurized pipeline is better solution for such vessel. The Fresh water pump will be automatic push button start to deliver the water into the sprinkle nozzle in coverage area. TORISHIMA end-suction heavy duty process pump is most obvious choice for such requirement. High versality and reliability are the result of the simple, robust design which meets the requirements and recommendations of API. Additional air ejector can be provided so the pump can be self-priming as the class rules requirements.

Watermist Pump

Suitable Type of Pump : MMO, CEN, CAL, CAR

One watermist pump will be placed outside of the Engine Room should the vessel equipped with Local Application Fire Fighting System using fresh water. The system will cover local area directly above important equipment with fire risk probability such as Main Engine, Diesel Generator, Purifier, Boiler or Incinerator. TORISHIMA recommend our horizontal multi-stage pump depend on customer installation preferences, the pump can also be customized on the discharge and suction outlet orientation to best suited the system pipe arrangements. Additional air ejector can be provided so the pump can be self-priming as the class rules requirements.

External Fire Pump

Suitable Type of Pump : CPR, CAM, CDM

Ship's external fire fighting often equipped on some vessel such as Fire fighting vessel, Patrol Boat and Tug Boat. The system mostly using diesel driven pump with high discharge pressure. The pump configuration can be FiFi Class I of total 2400 m³/h or customized to be 1/2 or even 1/4 Fifi Class. TORISHIMA end-suction heavy duty process pump is most obvious choice for such requirement. High versality and reliability are the result of the simple, robust design which meets the requirements and recommendations of API.

Chilled Water Pump

Suitable Type of Pump : CAL, CAR, CEN

Chilled water pump is used to pump chilled water in a closed circuit system from the evaporator to the cooling surfaces of AHU where the cold is needed. This could be in Chilled water AC Central or fish freezing system. TORISHIMA high efficiency end-suction volute pump has been used on many air conditioning system installation with each specification as the system demands. Our pump has optional feature with the possibility to remove the internal of the pump without dismantling pipes or even removing the electric motor.

AC Cooling Pump

Suitable Type of Pump : CEN, CAL, CAR

AC Cooling pump in AC Central of fish freezing system always pump sea water to the condensor. Neither the salt content or high working hours demand poses a problem to our centrifugal pump due to the sturdy design. TORISHIMA high efficiency end-suction volute pump has been used on many air conditioning system installation with each specification as the system demands. Our pump has optional feature with the possibility to remove the internal of the pump without dismantling pipes or even removing the electric motor.

LT/HT Fresh Water Cooling Pump

Suitable Type of Pump : CEN, CAL, CAR

Most large equipment onboard such as main engine, auxiliary engines and other equipment in the engine room which needs to be cooled down is using fresh water for Low Temperature (LT) and High Temperature (HT) systems. The closed cooling system is circulated continuously to keep the engines temperature on suitable and stable level. High efficiency fresh water LT & HT cooling pump is needed as it will have many running hours along side the engine running hours. TORISHIMA end-suction volute pump provided the end user with a high speed, simplified design and lower NPSH. Producing a long lasting and reliable pumps at better energy saving.

Sea Water Cooling Pump

Suitable Type of Pump : CEN, CAL, CAR

Most large equipment onboard such as main engine, auxiliary engines and other equipment in the engine room used sea water as cooling liquid to cool down the closed circuit cooling using heat exchanger. High efficiency sea water cooling pump is needed as it will have many running hours alongside the engine running hours. TORISHIMA end-suction volute pump provided the end user with a high speed, simplified design and lower NPSH. Producing a long lasting and reliable pumps at better energy saving.

Cargo Oil Pump

Suitable Type of Pump : CAM, CPR, CDM, CPC

Cargo oil system shall consist of independent system and capable of performing loading & unloading of different kinds of cargo oil simultaneously and shall be capable of changing the combination of tanks and pums using the interconnection line and header. Electric tachometer & pneumatic or electric governor shall be provided to regulate the cargo pump revolution from 100% down to approximately 50%. TORISHIMA end-suction volute pump provided the end user with a high speed, simplified design and lower NPSH. Producing a long lasting and reliable pumps at better energy saving.

Tank Cleaning Pump

Suitable Type of Pump : CAM, CPR

Tank cleaning system shall carry out the cleaning with hot water or cold water or cargo oil. The tank cleaning pump or cargo pump often needed to take sea water from the sea chest and discharge to both tank cleaning main line and cargo oil stripping eductor as a driving water. TORISHIMA end-suction volute pump provided the end user with a high speed, simplified design and lower NPSH. Producing a long lasting and reliable pumps at better energy saving.

SW Hydrophore Pump

Suitable Type of Pump : CAL, CAR, MMO

On sanitary system. sea water used for toilet flushing and other necessity service which required sea water. Pressurized hydrophore tank installed for this application. TORISHIMA recommend our horizontal multi-stage pump depend on customer installation preferences, the pump can also be customized on the discharge and suction outlet orientation to best suited the system pipe arrangements. The pump can be supplied in common skid with hydrophore tank of any volume as required. The motor will also provided with auto-start switch alarm for crew ease-of use.

FW Hydrophore Pump

Suitable Type of Pump : CAL, CAR, MMO

On sanitary system. fresh water used for shower, drinking, cooking and other necessary service which required fresh water. Pressurized hydrophore tank installed for this application. TORISHIMA recommend our horizontal multi-stage pump depend on customer installation preferences, the pump can also be customized on the discharge and suction outlet orientation to best suited the system pipe arrangements. The pump can be supplied in common skid with hydrophore tank of any volume as required. The motor will also provided with auto-start switch alarm for crew ease-of use.

Boiler Circulation Pump

Suitable Type of Pump : MMO, MML, MMK

Some vessels have one or more boiler onboard for different applications - e.g. exhaust gas or cargo oil heating. Boiler circulation pump will forced the circulation within. Mostly this pump is part of the boiler manufacture supply as the pump is rather specialised due to high temperature and pressure. TORISHIMA recommend our high pressure multi-stage pump, the pump can also be customized on the discharge and suction outlet orientation to best suited the system pipe arrangements. Our pump has optional feature with the possibility to remove the internal of the pump without dismantling pipes or even removing the electric motor.

Boiler Feed Water Pump

Suitable Type of Pump : MMO, MML, MMK

Some vessels have one or more boilers onboard for different applications - e.g. exhaust gas or cargo oil heating. Boiler feed water pump required to re-fill the water when steam is leaving the boiler. Although not as critical as the boiler circulation, the pump must be suitable for the high temperature. TORISHIMA recommend our multi-stage pump, the pump can also be customized on the discharge and suction outlet orientation to best suited the system pipe arrangements. Our pump has optional feature with the possibility to remove the internal of the pump without dismantling pipes or even removing the electric motor.

Shaft Cooling Pump

Suitable Type of Pump : CEN, CAL, CAR

Shafting on propulsion system often use hydro seal to ensure watertightness of the bulkhead where the shaft penetrated the ship's hull. This seal required cooling water to keep outside sea water at bay, but most propulsion engine cooling pump didn't provide the water to this seal. Separate cooling pump shall be installed for this purpose only, as the seal require a small amounts of flow and low maximum permissible pressure. High efficiency sea water shaft cooling pump is needed as it will have many running hours alongside the engine running hours. TORISHIMA end-suction volute pump provided the end user with a high speed, simplified design and lower NPSH. Producing a long lasting and reliable pumps at better energy saving.

Sewage Pump

Suitable Type of Pump : CPC

Onboard sewage from crew accommodation will be store on sewage tanks. Then sewage pumps will play crucial role for transferring the liquid into sewage treatment plant. TORISHIMA CPC type process pump have semi-open impeller to handle some degree of solid and particals that always expected in sewage water. The high efficient design provide high performance at a low running cost. A relief valve accessories can be installed on pump for pressure safety matters. Our pump has optional feature with the possibility to remove the internal of the pump without dismantling pipes or even removing the electric motor.

Dock Main Pump

Suitable Type of Pump : CDM, SPV

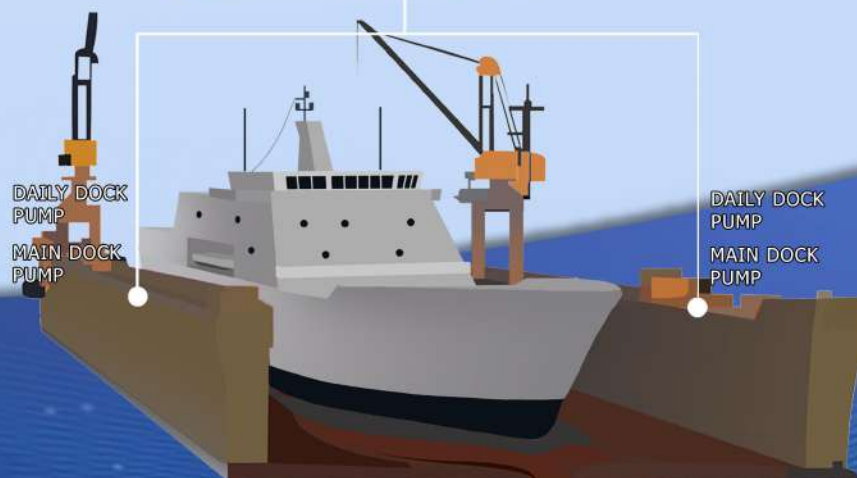
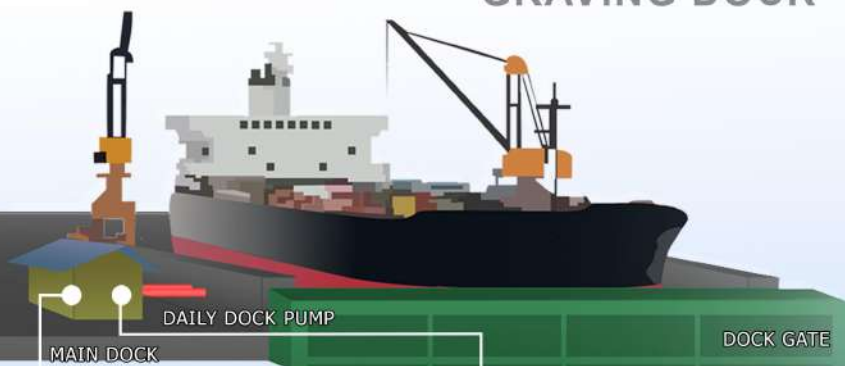
On graving dock or floating dock it is required to pump out the sea water from the dock before/after the ship entered. The pumps can be arranged in parallel system using many units of pump as the required configuration. The pump need to have very high flow capacity and big suction capability. TORISHIMA reputation for providing reliable mixed-flow pump to operate in critical process is second to none . With several thousand pumps operating worldwide you can count on TORISHIMA pump to be the driving force behind your pumping requirements.

Dock Daily Pump

Suitable Type of Pump : SPV, CDM

On graving dock or floating dock it is required to keep the sea water at bay during dry condition. The pumps can be arranged in parallel system using many units of pump as the required configuration. The pump need to have very high flow capacity, big suction capability and vertically installed. TORISHIMA high pressure vertical canister pump present significant advantages in those cases where limited suction head is available. The canister serves as a suction receiver, and by adding the length to the canister or pump, adequate suction head can be provided to ensure trouble-free operation.

GRAVING DOCK



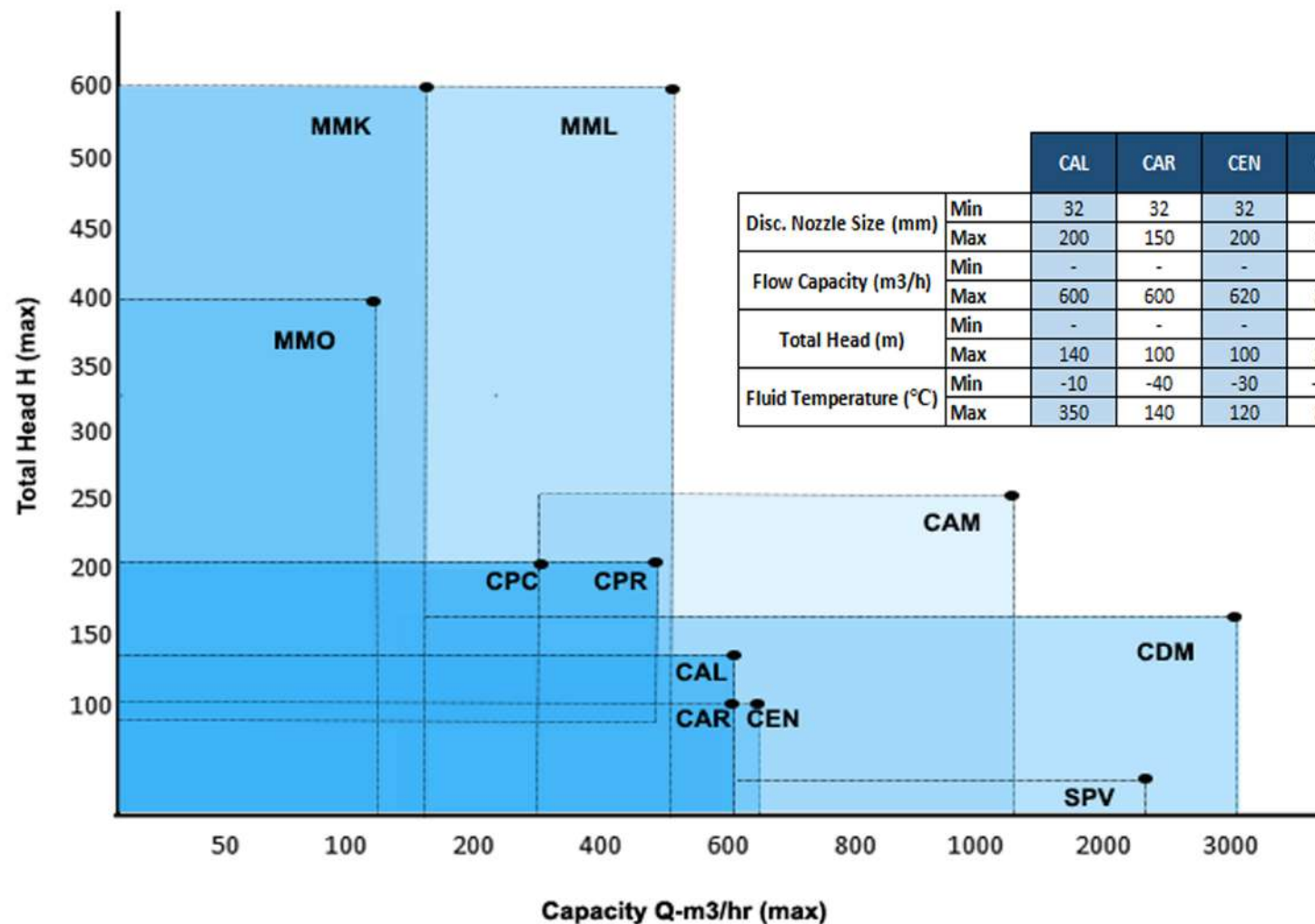
FLOATING DOCK

TORISHIMA GUNA INDONESIA have a comprehensive understanding of Marine technical requirements and applications for pumps and pumping system

TORISHIMA GUNA INDONESIA SUPPORTS MARINE INDUSTRY IN MANY WAYS

- Engineering support for design and planning
- New Shipbuilding projects for new pumping applications, upgrades and obsolescence replacement
- Replacement pumps during docking periods for any kind of vessel
 - Attendance on board to oversee installations and to commission equipment
- Technical assistance for any kind of pump technical issue on board
- Pump performance testing facilities

MAIN PRODUCT SELECTION TABLE



PUMP OPERATING RANGE

		CAL	CAR	CEN	CPC	CAM	CPR	CDM	MMO	MMK	MML	SPV
Disc. Nozzle Size (mm)	Min	32	32	32	40	150	40	200	32	40	40	200
	Max	200	150	200	100	250	200	500	65	150	150	500
Flow Capacity (m3/h)	Min	-	-	-	-	300	-	150	-	-	-	600
	Max	600	600	620	300	1200	500	3000	130	150	500	2300
Total Head (m)	Min	-	-	-	-	-	90	10	-	-	-	5
	Max	140	100	100	200	250	200	160	400	600	600	35
Fluid Temperature (°C)	Min	-10	-40	-30	-100	-30	-70	0	-	-	-	-
	Max	350	140	120	350	350	400	80	120	140	140	80

*)Any Requirement above Operating Range is available upon request.