

Converteam, as a leading supplier of electric propulsion, automation and dynamic positioning systems, offers solutions to improve cargo ships' efficiency and safety with Power Take-Off (PTO), Booster/Power Take-In (PTI) and Power Take-Home (PTH) systems.

3 functions in 1 to optimize investment

The growing number of installed PTO systems, mainly on container ships, is revealing an increase in the electrical power needed onboard vessels. The PTO generation system has the advantage of producing an economic power coming from the main engine using heavy fuel at a better efficiency point.

Booster/PTI system is an economical solution to increase power and efficiency of the propulsion of any kind of vessels, converting energy coming from exhaust gases of main engine into free of charge electric power.

This additional electric power is used in the electric motor installed on the main shaft line to increase the speed of the vessel.

Induction motors and PWM MV7000 converters enhance ship performance and availability

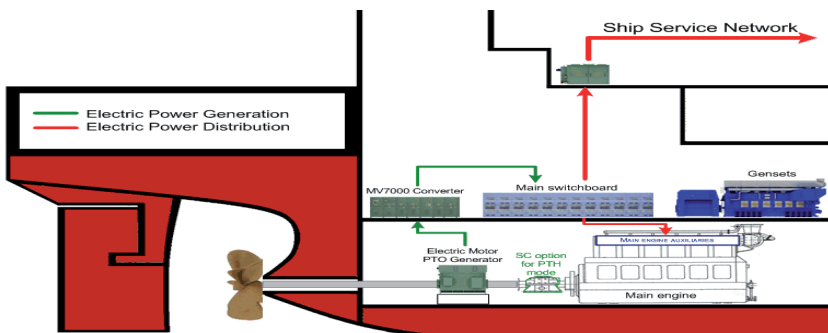
- Easy, safe and efficient operation
- No need for harmonic filters
- No need for synchronous compensators
- High reliability
- Compactness
- Low harmonic content (less than 5% THD)
- Fuel cost savings
- Easy installation and maintenance
- Minimized ecological footprint.

Advantages for PTO

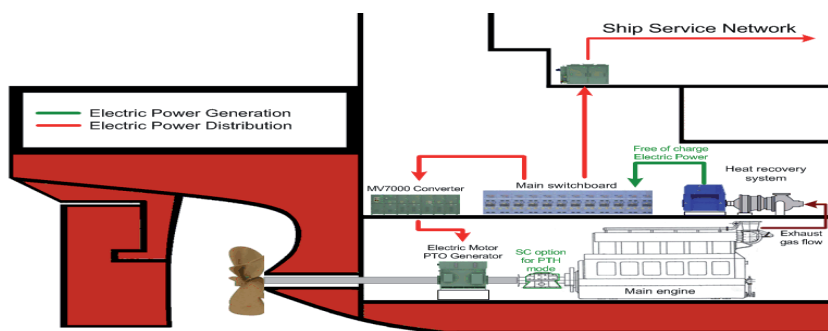
- Redundancy of electric power sources
- Independence of main engine with regard to gensets
- Less gensets needed onboard
- Less maintenance on gensets.

Advantages for Booster/PTI

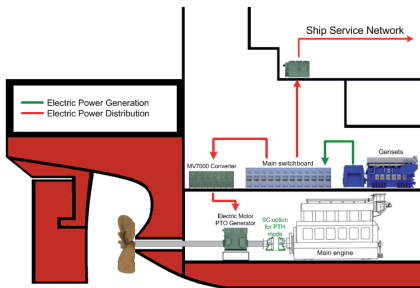
- Increased propulsion power
- For the same vessel speed, main engine can be smaller
- Smaller generators (PF = 0.9) or less generators in operation
- Better overall efficiency.



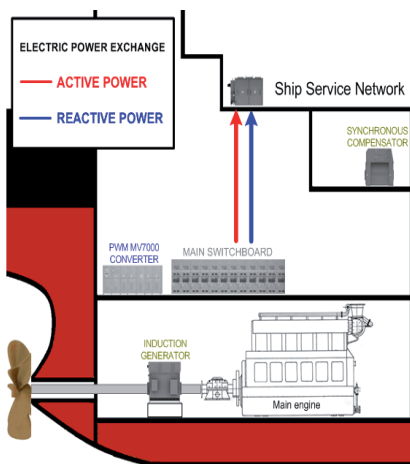
PTO: Electric power generation mode



PTI: Booster mode



PTH: Emergency mode



PTO in Harbor

Advantages for PTH

- In case of main engine failures, vessels fitted with PTH drive are able to maintain manoeuvrability and reach terminal harbor
- Fully compliant with redundancy class specified by classification societies
- Electric propulsion is available to order: vessels can start immediately in case of emergency.

Advantages for PTO when in harbor

In harbor, ship's equipment needs for reactive power to be operated. Active Front End PWM MV7000 converters can be used as reactive power generators: this characteristic allows design of smaller generators with 0.9 power factor.

Examples

In PTO mode, we get:

- A constant power between 80 and 100% of the nominal main engine speed
- A reduced power between 40 and 80% of the nominal main engine speed.

In Booster/PTI mode, we get:

- A constant torque between 40 and 90% of the nominal main engine speed
- A constant power between 90 and 105% of the nominal main engine speed.

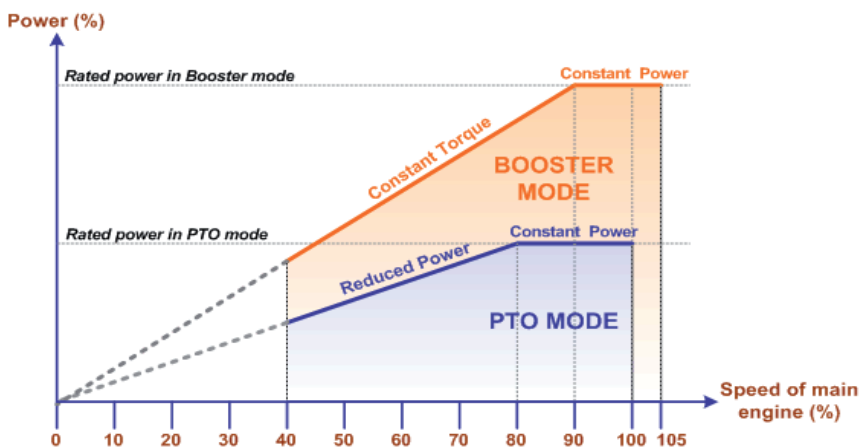
Customized services

Converteam provides its customers with optimum support:

- Spare parts management
- High quality training
- Preventive and routine maintenance
- Technical assistance on line through a 24/7 call center, for maintenance and troubleshooting.

Expert evaluation

To help you to choose the best solution for newbuildings or upgrades and modernization, we offer expert evaluation services including technical assessment, Equipment and System Health Monitoring and recommendations.



Power/Torque available in PTO and Booster modes

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