

SERVICE CLASSIFICATION DEFINITIONS

Pleasure Craft

Maximum power capacity is intended only for personal use, planing hull pleasure craft where full engine throttle operation will be less than 5% of total time with balance of time at 87% of full throttle engine RPM or less. Marine Gears used in long range pleasure cruisers, sportfish charters or any commercial service should not be selected according to Pleasure Craft Service Classification.

Intermediate Duty

pleasure or Commercial usage of planing or semi-displacement hull craft can qualify for Intermediate Duty Service Classification if full throttle operation will average only a few hours per day with major portion of usage at partial throttle and total annual usage will be 2000 hours or less.

Examples: Long Range Pleasure Cruisers

portfish Charter Boats

Party Fishing Boats

Some Crew Boats, Lobster Boats

Harbor and Coastal Patrol Boats

Search and Rescue Boats

Fire Boats

Continuous Duty

Commonly called "Workboat Duty," these Marine Gear applications are expected to operate continuously at full engine governed speed. The propulsion engine power setting must be known and must be within the Marine Gear's allowable input rating for continuous daylong or around-the-clock service.

Most displacement hull vessels are powered for Continuous Duty service. However, the actual engine (and Marine Gear) power loading depends on:

- a. The propeller used
- b. The vessel's work assignment
- c. The captain's choice of throttle setting during continuous service

Hitachi Nico Transmission Co., Ltd. (HNT) recommends that all displacement and semidisplacement hull commercial applications be classed as Continuous Duty usage of the Marine Gear.

Examples: Fishing trawlers, Purse seiners

Lobster boats and crab boats

Tugs, Tow boats, Buoy tenders

Offshore crew/supply boats, Ferries

Research vessels, Ocean freighters

IMPORTANT APPLICATION INFORMATION

- Transmission ratings are based on use of the transmission in a torsionally compatible system utilizing suitable input torsional coupling.
- Ratings are for diesel engines at the indicated speeds unless otherwise limited.
- Consult factory for ratings applicable to gasoline engines or gas turbines or for all other applications not conforming to the given service classification definitions.
- Ratings apply to right hand engines, i.e., counterclockwise flywheel rotation when viewing rear of engine.
- The power transmission capacity of the forward and reverse components is the same. However, helical directions of gear for starboard and port unit on some models will be changed.

IMPORTANT NOTICE : Torsional vibration analysis is required and can be made by the engine manufacturer and independent consultants. HNT is prepared to assist the analysis in relation to the transmissions. Hitachi Nico Transmission Co., Ltd. advises users of these products that their safe operation depends on use in compliance with technical information provided in the product manuals. Proper installation, operation and periodical inspection and maintenance are prerequisite for safe operation of these products. It is the responsibility of users to provide and install safety devices, which may be required by recognized safety standards.

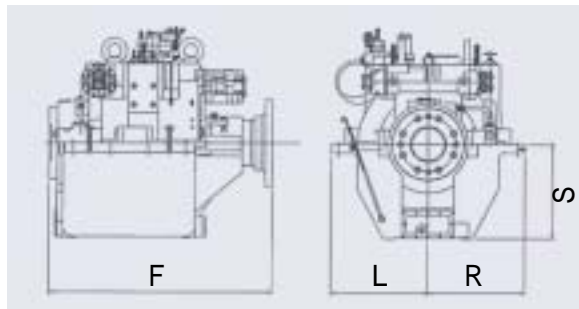
Hitachi Nico Transmission Co., Ltd.

Continuous Duty Marine Hydraulic Clutch for Low-Speed Engine

HLT Series

| Model | SAE Hsg. | Standard Ratios | Input Rating | | | | | | Max. |
|----------|----------|-----------------|-----------------------|------|-----------------------|------|-----------------------|------|-------------------|
| | | | 200 min ⁻¹ | | 300 min ⁻¹ | | 400 min ⁻¹ | | Speed |
| | | | kW | HP | kW | HP | kW | HP | min ⁻¹ |
| HLT 850 | --- | --- | 588 | 788 | 883 | 1184 | 1103 | 1479 | 400 |
| HLT 950 | --- | --- | 758 | 1016 | 1136 | 1523 | 1324 | 1775 | 400 |
| HLT 1050 | --- | --- | 1049 | 1406 | 1567 | 2101 | 1692 | 2268 | 400 |
| | | | 100 min ⁻¹ | | 200 min ⁻¹ | | 300 min ⁻¹ | | |
| HLT 1250 | --- | --- | 883 | 1184 | 1765 | 2366 | 2354 | 3156 | 300 |
| HLT 1450 | --- | --- | 1118 | 1499 | 2236 | 2997 | 2648 | 3550 | 300 |
| HLT 1650 | --- | --- | 1545 | 2071 | 3089 | 4141 | 3310 | 4437 | 300 |
| HLT 1950 | --- | --- | 2207 | 2958 | 4119 | 5522 | --- | --- | 250 |
| HLT 2150 | --- | --- | 2824 | 3786 | 5443 | 7296 | --- | --- | 250 |
| HLT 2650 | --- | --- | 4707 | 6310 | 6325 | 8479 | --- | --- | 250 |

HLT Series Dimensional Data



| Model | F: | L:mtg. | R:mtg. | C: | S: | Mass (approx.dry) kg |
|----------|--------------|-----------|-----------|--------------|------------|----------------------------|
| | length mm | pad mm | pad mm | offset mm | sump mm | |
| HLT 850 | 880 | 460 | 460 | --- | 450 | 1250 |
| HLT 950 | 1000 | 460 | 460 | --- | 470 | 1450 |
| HLT 1050 | 1090 | 510 | 510 | --- | 530 | 2200 |
| HLT 1250 | 1300 | 620 | 620 | --- | 600 | 3800 |
| HLT 1450 | 1540 | 650 | 650 | --- | 650 | 4800 |
| HLT 1650 | 1600 | 670 | 670 | --- | 700 | 5100 |
| HLT 1950 | 1760 | 700 | 700 | --- | 850 | 8000 |
| HLT 2150 | 1830 | 800 | 800 | --- | 950 | 10000 |
| HLT 2650 | 1922 | 800 | 800 | --- | 1000 | 13000 |

- Comments
- Dimensions may vary with housing adapter or output flange size.
 - Dry mass is approximate and does not include companion flange.
 - Specifications subject to change.