

C. General Performance Data on Vehicle and Built-in Engines OM 636

a) Performance Data on Vehicle Engines

The performance data are specified according to DIN 70 020. The indicated output is actually available at the clutch of the standard engines complete with intake and exhaust facilities under normal operating conditions. During the test the fan, water pump, fuel pump, injection pump, and the idling generator are driven by the engine. Normal operating conditions include serially adjusted injection pump timing, use of a commercial fuel as specified by operating instructions, and maintaining of the coolant and lubricant temperature as applicable to normal operation.

The measured power output is converted to correspond to 760 mm Hg and 20° C.

b) Performance Data on Built-in Engines OM 636

The performance data are specified according to DIN 6270.

Depending on the different duties there are the following data:

Continuous Output A, DIN 6270, the output, which can be continuously supplied by the engine depending on its application, an overload being permissible. (Mainly for power units of constant load level, e.g., power generators, main pumps, river boats, and similar.)

Continuous Output B, DIN 6270, the output, which can be supplied by the engine during a **definite length of time**, as specified by its respective application. This output cannot be exceeded, because it is blocked. (Mainly for power units with heavily varying load peaks, e.g., boats, road construction machinery, and, if applicable, rail vehicles and others.)

Continuous Output for Sea-going Ships. Compared with the continuous output A there is a difference not only as far as the operating conditions are concerned but also due to the fact that the continuous output in sea-going ships must have no restricted time limit.

Output and torque of the built-in and vehicle engines can be taken from the following diagrams. For built-in engines the specified outputs indicate peak values, which can be adjusted to the respective requirements of load and speed demanded by the application of the engine by limiting the throttle butterfly in the throttle duct. The individually valid output and speed values can be taken from "Section E, general tables with type indications, design versions, deviations in relation to the standard engine, capacities, and specific performance data of the OM 636 engines".

Output Diagrams for Vehicle Engines according to DIN 70 020

Output N_e , Torque M_d , and effective Pressure P_{me} .

a) for engines with injection timing device $N_e = 43$ HP at 3500 rpm

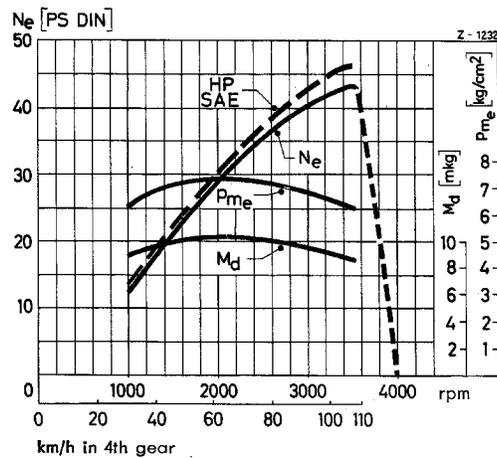


Figure 0-1/1

b) for engines without injection timing device $N_e = 40$ Hp at 3200 rpm

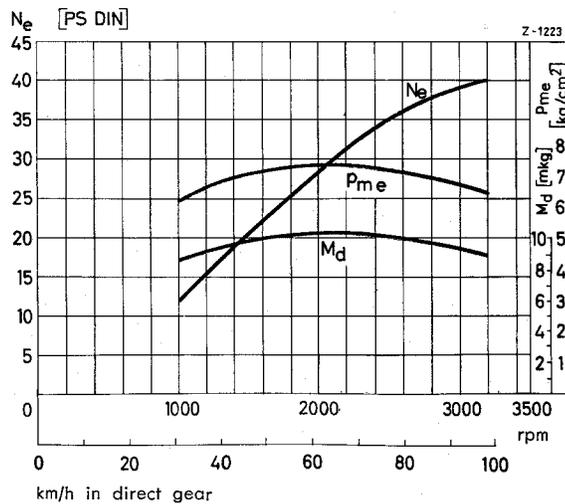


Figure 0-1/2

c) for engines of the type 636.914 "Unimog" $N_e = 32$ HP at 2550 rpm

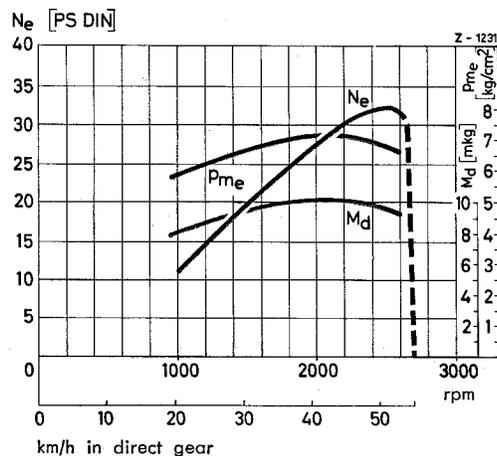


Figure 0-1/3

Performance Diagrams for Built-in Engines

- a) Continuous output A according to DIN 6270
- b) Continuous output B according to DIN 6270
- c) Output Ne for engines of sea-going ships

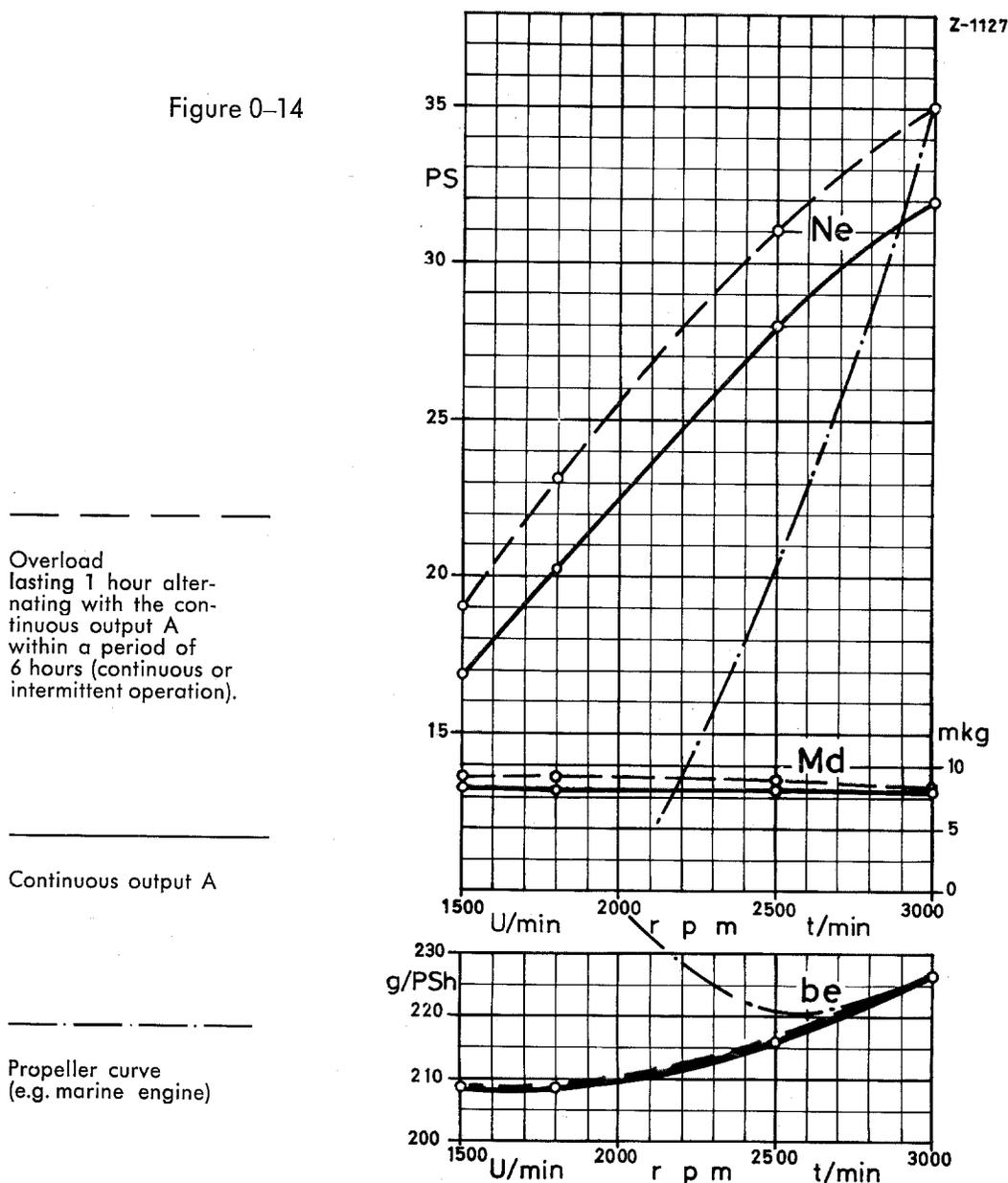
a) Continuous Output A according to DIN 6270

Output Ne, Torque Md, and specific Fuel Consumption be

The fuel consumption includes a tolerance of 5 % for a fuel with a minimum of 10,000 K.-cal/kg.

Based on: atmospheric pressure 736 Torr, air temperature (engine inlet) max. 20° C, and relative humidity 60 %.

Figure 0-14



The specified outputs are available at the clutch (flywheel), that means the power consumption of the aggregates necessary for the operation of the engine (but without fan) has already been subtracted. The fan consumes approx. 4 % of the output.

b) Continuous Output B according to DIN 6270

Output Ne, Torque Md, and specific Fuel Consumption be

The fuel consumption includes a tolerance of 5 % for a fuel with a minimum of 10,000 K.-cal/kg.

Based on: atmospheric pressure 736 Torr, air temperature (engine inlet) max. 20° C, and relative humidity 60 %.

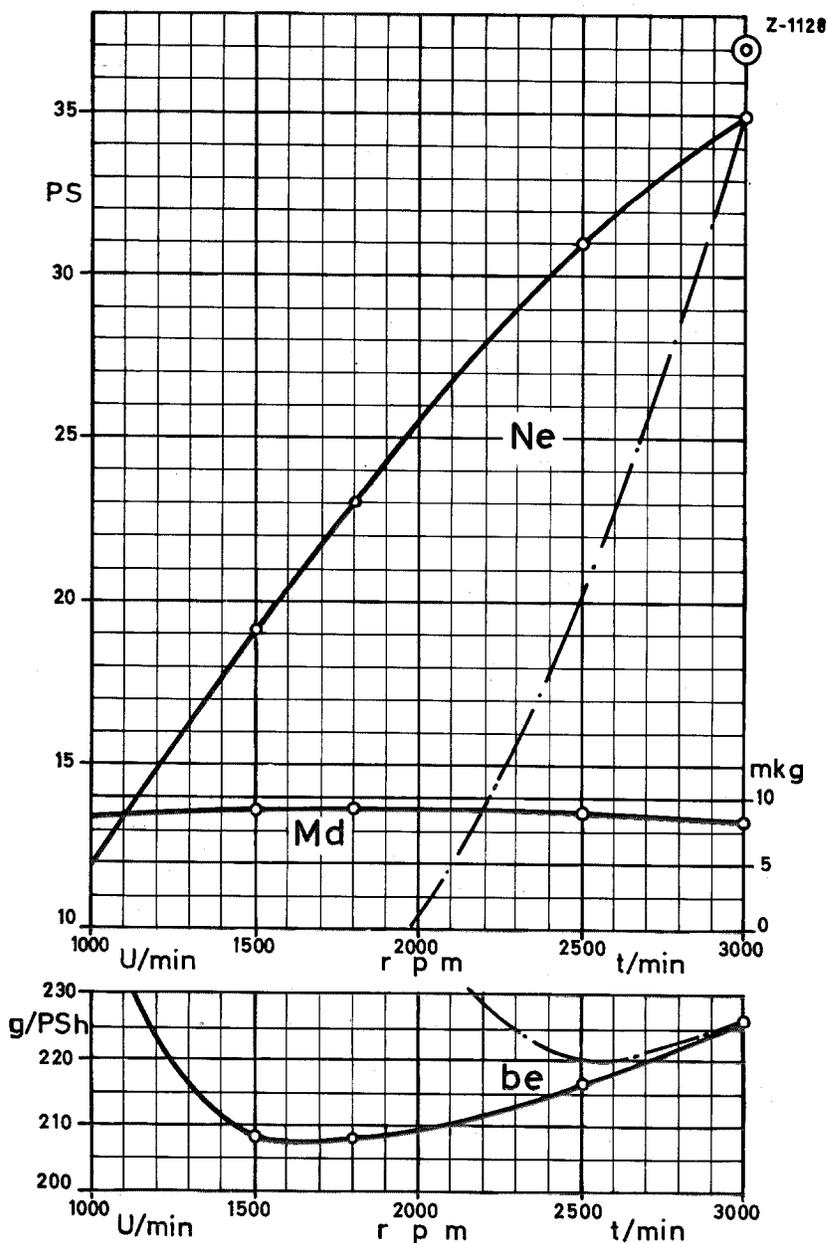
Figure 0-1/5



Maximum output for 15 minutes, only to prove that the engine is not running at output limit during continuous output B.

Continuous output B cannot be surpassed, because the fuel feed is limited (blocked) to this output.

Propeller curve (e.g. marine engine)



The specified outputs are available at the clutch (flywheel), that means the power consumption of the aggregates necessary for the operation of the engine (but without fan) has already been subtracted. The fan consumes approx. 4 % of the output.

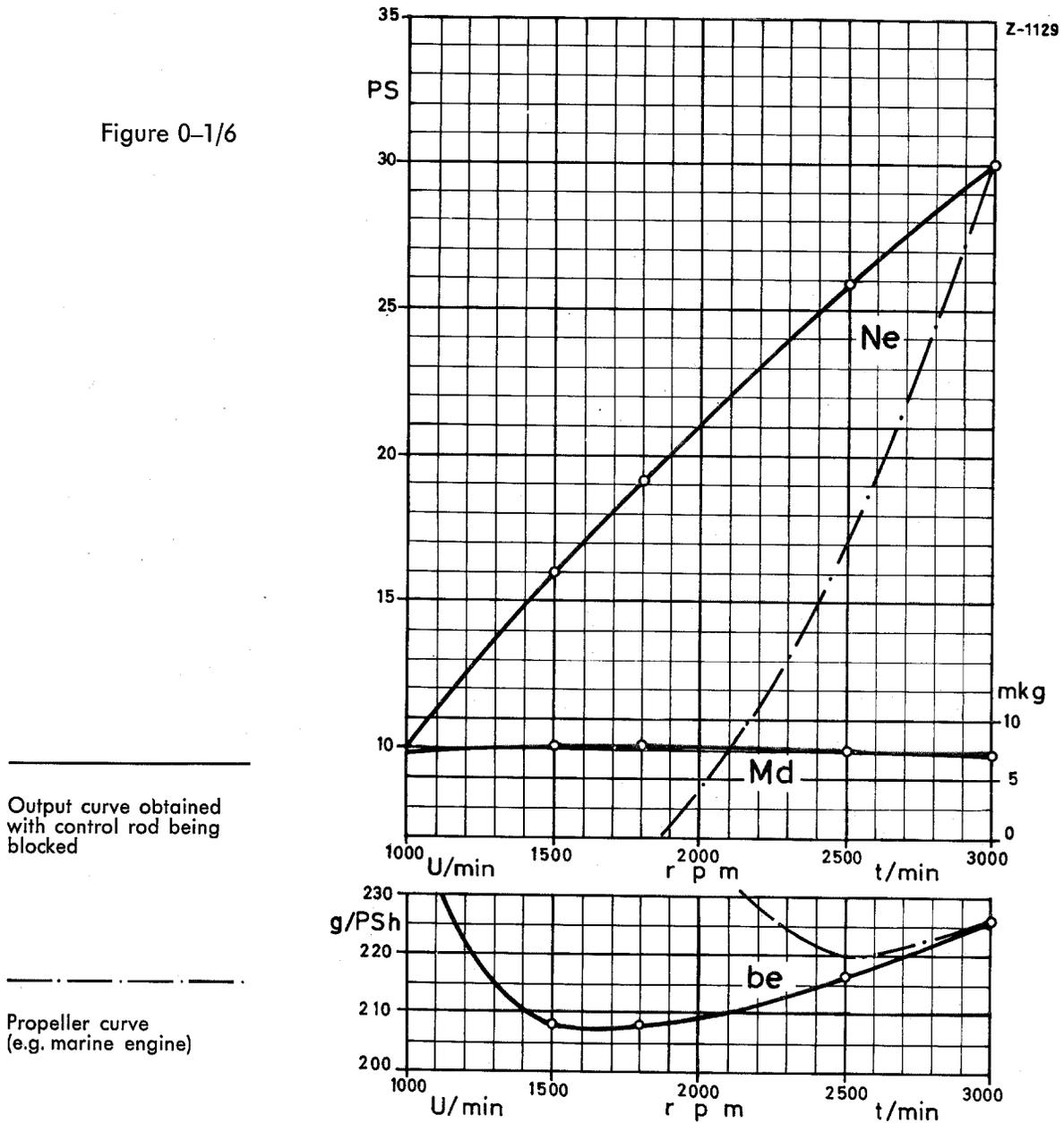
c) Output Ne for Engines of sea-going Ships

with Torque Md and specific Fuel Consumption be

The fuel consumption includes a tolerance of 5 % for a fuel with a minimum of 10,000 K.-cal/kg.

Based on: atmospheric pressure 760 Torr, air temperature (engine inlet) max. 40° C, and sea water temperature max. 30° C.

Figure 0-1/6



The specified outputs are available at the clutch (flywheel), that means the power consumption of the aggregates necessary to operate the engine has already been subtracted.