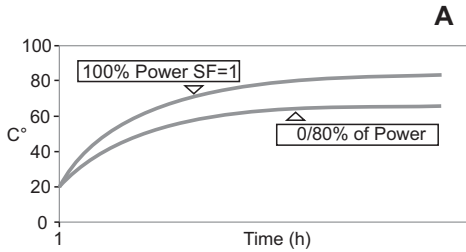


THERMAL LIMIT

Thermal limit

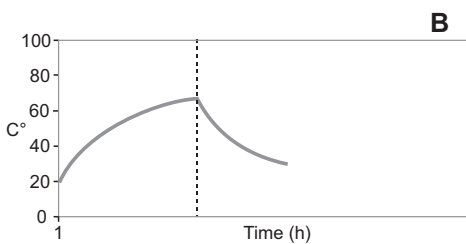


Worm gearboxes, because of their inside design, transform part of their installed power into heat which is subsequently disposed of throughout the housing and may result into values, measured onto the gear case in the area of the worm shaft, in the range of 80 - 100 °C without this affecting the operation of the gear unit adversely.

The diagram of the temperature increase depending on the operating time is illustrated in graph A. Final temperature is given by the sum of several components :

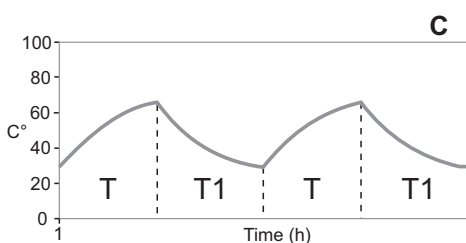
- Installed power and percentage of usage
- Ambient temperature
- Lubrication
- Cooling method
- Input speed

Thermal limit with intermittant duty



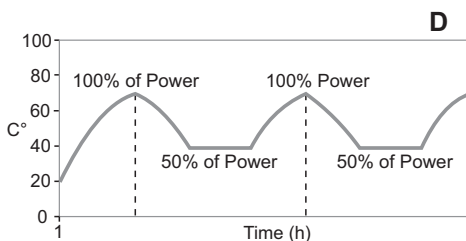
In this case the temperature increase curve is similar to the one for continuous duty. In fact the peak is reached in approximately 20/30 minutes using 100% of the power.

The gearbox can be stopped at any point of this curve then following a cooling curve whose shape depends on the ambient temperature (graph B).



Should the gearbox have several starts and stops cycles, the final temperature depends on starts and stops times (very similar to electric motors with operation S3 and S6 see graphs C and D).

Service factor values indicated in this catalogue refer to an intermittant duty.



Geared motor selections with 2800 min⁻¹ input speed are tolerated for intermittant duty applications only, because of the high temperature in crease resulting from the input rotation speed.

For these cases please contact technical department.