

# Duty Cycle Ratings



Doc: Duty/01

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## 'Duty cycle' ratings explained

Duty cycle is a rating that is given on all electric actuators. It is the relationship between actual running time and following necessary rest time. Duty cycle is defined as (time on) / (time on + time off) per cycle.

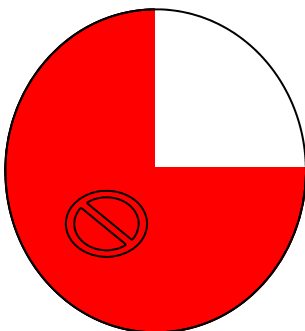
A unit which has a 100% (continuous) duty cycle would be able to run in ideal conditions indefinitely at ambient temperature. However, a unit which has a 25% duty cycle would require 3 times the amount of rest time as actual running time, following each movement.

J+J on-off actuators offer a 75% duty cycle which requires that the actuator rests for 1/3 of the running time following each movement.

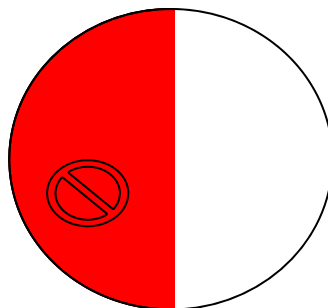
Duty cycle ratings are particularly important when using an electric actuator for modulating service. When a unit is in modulating service, it is continuously making corrections to the valve position as the process demands. In this case it would be important to have a unit with a 100% duty cycle.

A unit that is in open/close service and would remain in either open or closed position for extended periods of time would not require the 100% duty cycle as the valve position is not continuously being corrected and a reduced duty cycle may be adequate.

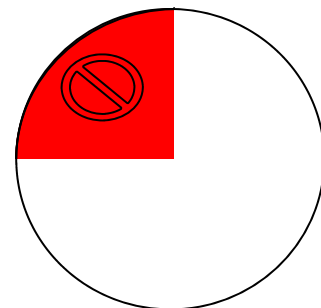
### GRAPHICAL REPRESENTATION



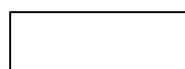
25% DUTY CYCLE



50% DUTY CYCLE



75% DUTY CYCLE



= Motor running time



= Motor rest time