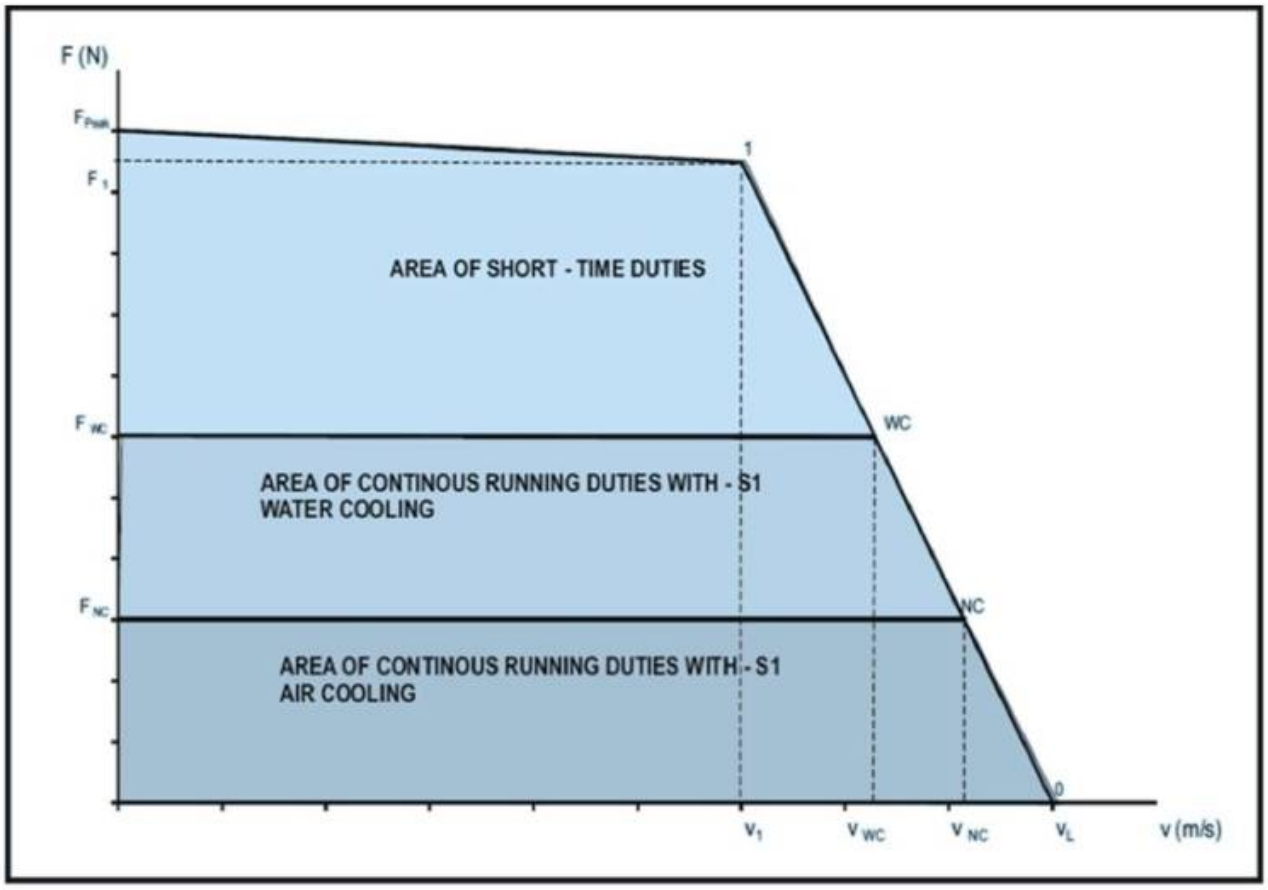
Force vs. speed curve

The characteristic force-versus-speed curve below shows the limiting curve. The shape of these characteristic curves is defined by the DC bus voltage and the relevant motor-specific data, e.g. inductance, resistance, and the motor constants. Varying the DC bus voltage (different drives, power supplies, or supply voltages) and/or using different motor windings produces different characteristic curves.



As velocity increases, the available DC bus voltage is reduced by the motor's back EMF. This leads to a reduction of the maximum feed force at higher velocities. The characteristic curves are specified up to the continuous nominal force. The velocity corresponding to the continuous nominal force is called the nominal velocity, vNC.

Note: If the connection or mains voltages differ, the specified characteristic curves can be converted linearly according to the existing voltages. For motors supplied with an unregulated DC bus voltage, voltage drops — for example from simultaneous acceleration of several axes — must be taken into account.

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