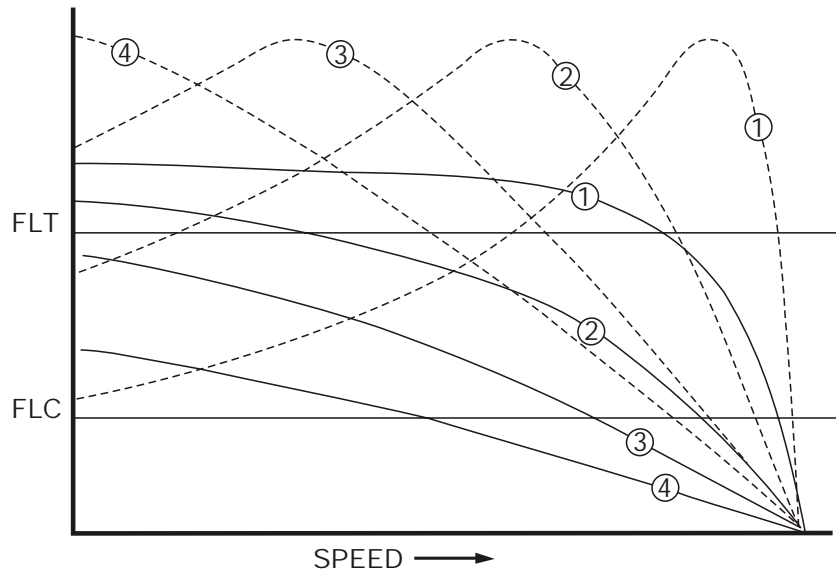


STARTING BY ADDING EXTERNAL RESISTANCE



1. Without external resistance
2. With external resistance (R1)
3. With external resistance (R1+R2)
4. With external resistance (R1+R2+R3)

----- Torque Speed Curve
 _____ Current Speed Curve

PULL OUT TORQUE

Pull out torque at rated voltage is as specified in the respective rating charts. However, as the available motor torque varies as the square of the supply voltage, an allowance may have to be made for voltage drop in long cable run, live rails and collectors, etc. Since current will be much higher than rated current, when working at pull out torque, these voltage drops may be significant.

It must be noted that the ratio of pull-out to rated torques is high for Starting Classes 300. The high pull-out torques with the starting class 300 rated motors ensure ample torque for rapid acceleration, despite the fall-off in effective torque due to stepped rotor resistance control. However, gear manufactures should be advised of these peak torques when inviting them to tender for drive transmission equipment.

PERMISSIBLE INERTIA OF DRIVEN PARTS

The factor of inertia can be calculated from the following formula,

$$FI = \frac{GD^2 \text{ of Load} + GD^2 \text{ of Motor}}{GD^2 \text{ of Motor}}$$

$$GD^2 = 4 \times I \text{ (I = Moment of inertia)}$$