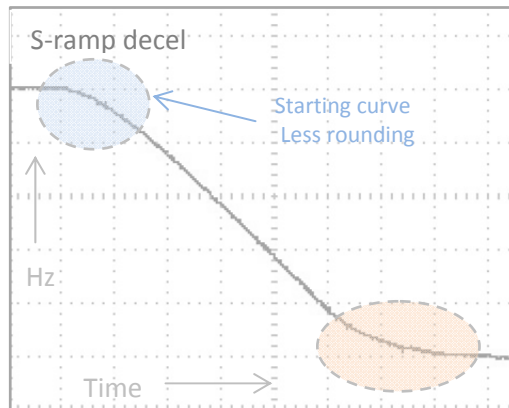
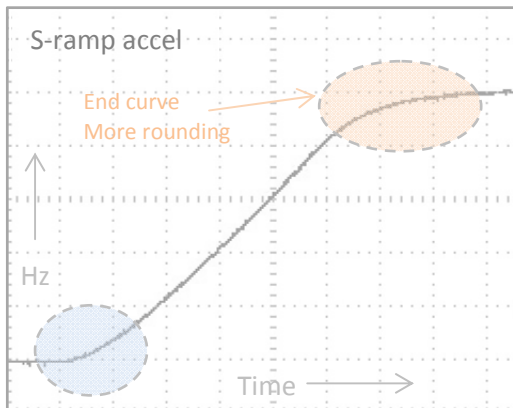
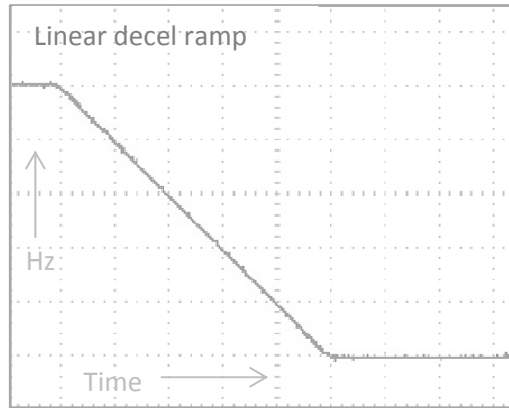
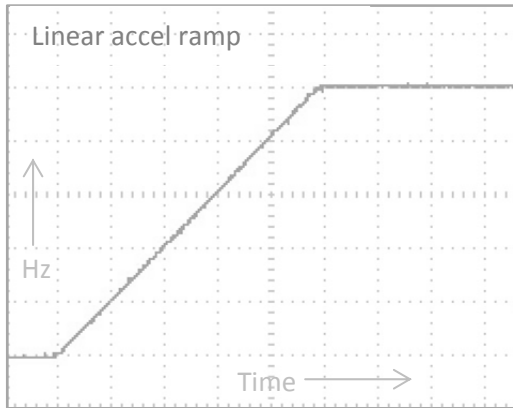


# SMV S-Ramp function

All SMVector drives have an S-Ramp.

The S-ramp function can be used in applications where smooth starting and stopping is required. In certain applications linear ramps can cause undesirable jerks and mechanical shocks.



## S-Ramp function Summary

- As shown above the S-curve is unsymmetrical. The starting curve (shown in blue) is always less rounding than the ending curve (shown in pink).
- Because of the S-curve time, the acceleration/deceleration time is extended. Example:

P104 (Acceleration time 1) = 5 seconds

P105 (Deceleration time 1) = 5 seconds

P106 (S-Ramp integration time) = 5 seconds

Total acceleration time will be approximately 13 seconds, deceleration time the same.

**Note:** S-ramps will also be applied to P125 (acceleration time 2) & P126 (acceleration time 2)

- The total time can be calculated approximately as follows:

$$\text{Total time} = P104 (\text{acceleration rate 1}) \text{ or } P105 (\text{deceleration rate 1}) + 2 * P106 (\text{S-Ramp time}) * 0.8$$

**For quick calculation there is a calculator (SMV accel decel time calc.xls) attached/embedded into this pdf.**



Click here  
for  
calculator

**Note:** This will give you an approximate time, practical testing should be carried out to obtain exact value.