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LISTEN. THINK. SOLVE.SM

Motion Sizing and Selecting

MotionAnalyzer

Design Motion Control Systems

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ALLEN-BRADLEY • ROCKWELL SOFTWARE

Rockwell Automation

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Agenda

1. What is Motion Analyzer?
2. What is New?
3. Using Motion Selector
4. What is coming in V4.5 and beyond?

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1. What is Motion Analyzer?
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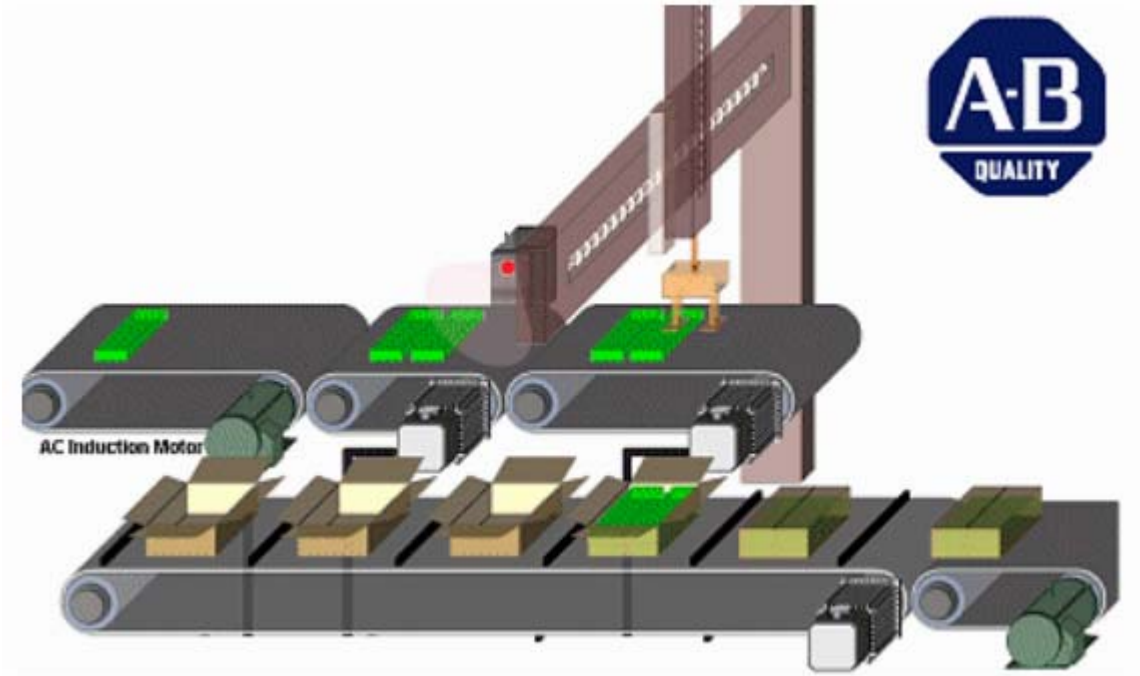
What is Motion Analyzer?

Servo motor and drive sizing software!



Machine Info → MotionAnalyzer Design Motion Control Systems → Motor and Drive Selection

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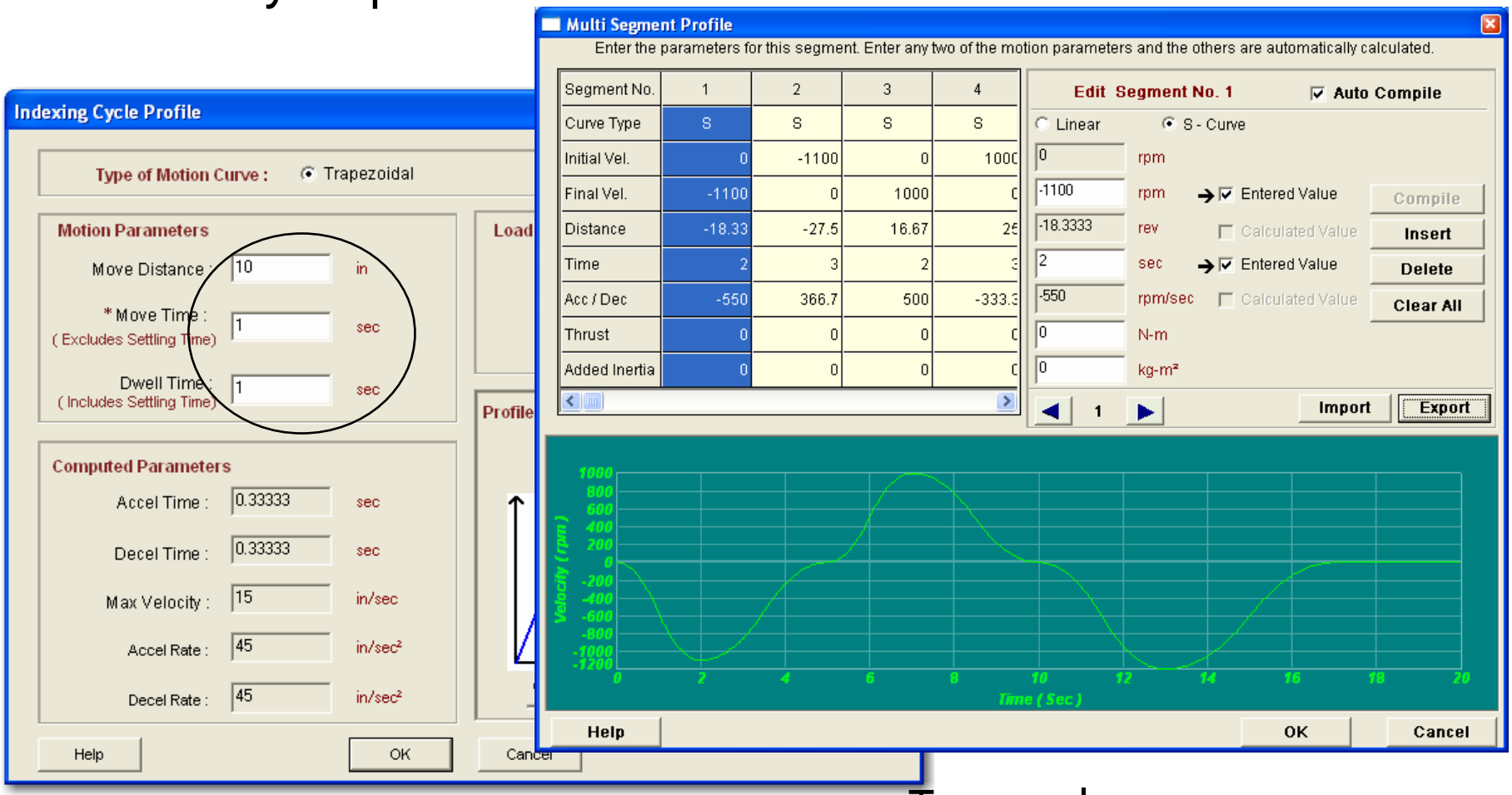
What is Motion Analyzer?

Enter the cycle profile for each axis…



From simple…

To complex

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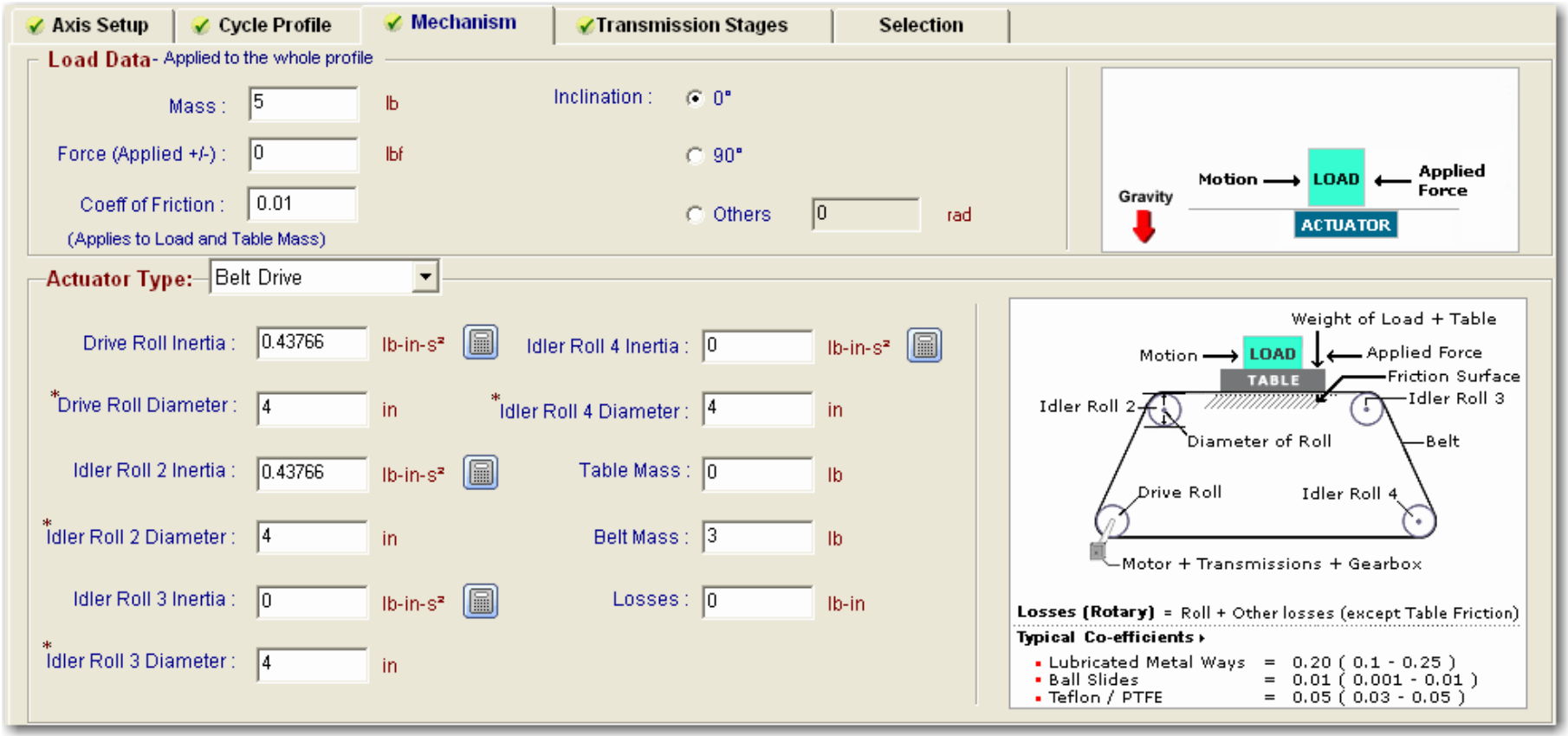
What is Motion Analyzer?

Use the actuator models to enter your machine details



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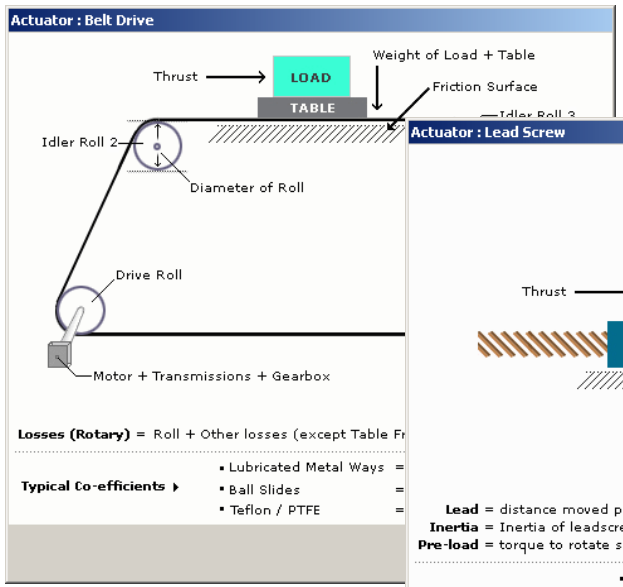
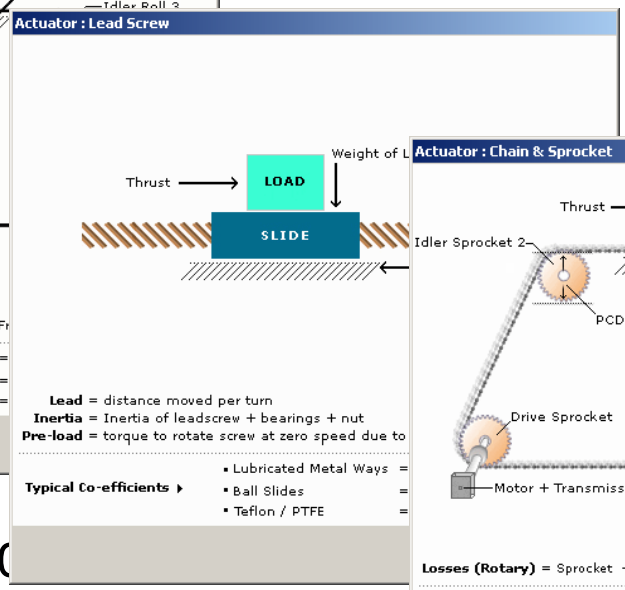
What is Motion Analyzer?

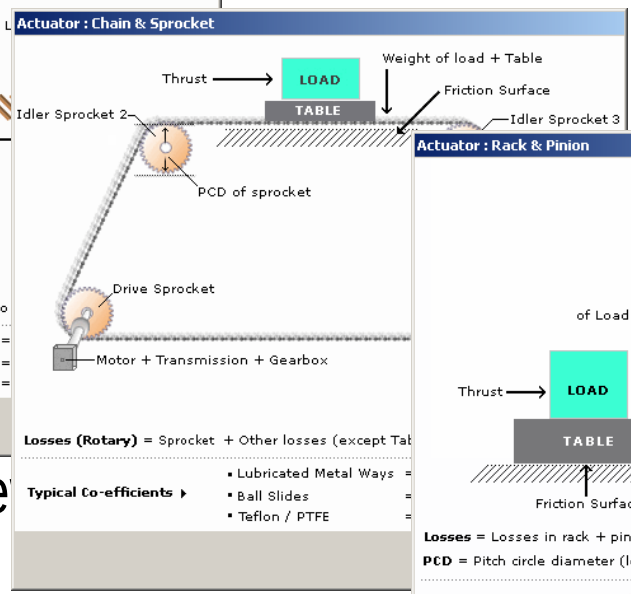
Choose from:



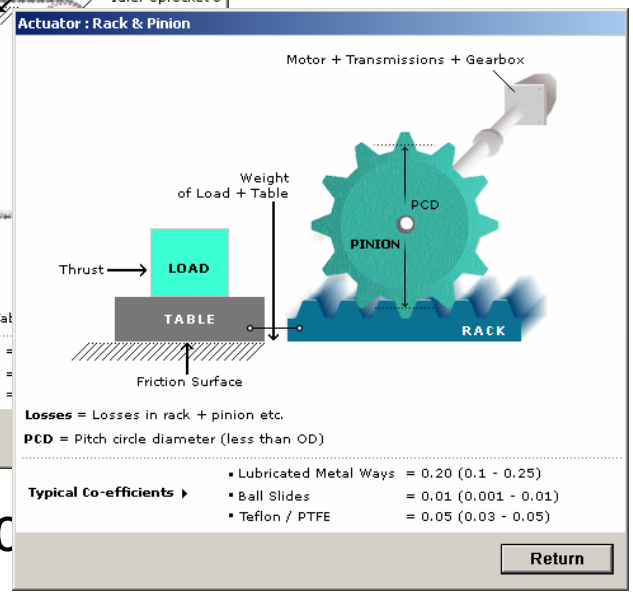
Belt actuato



Lead scre



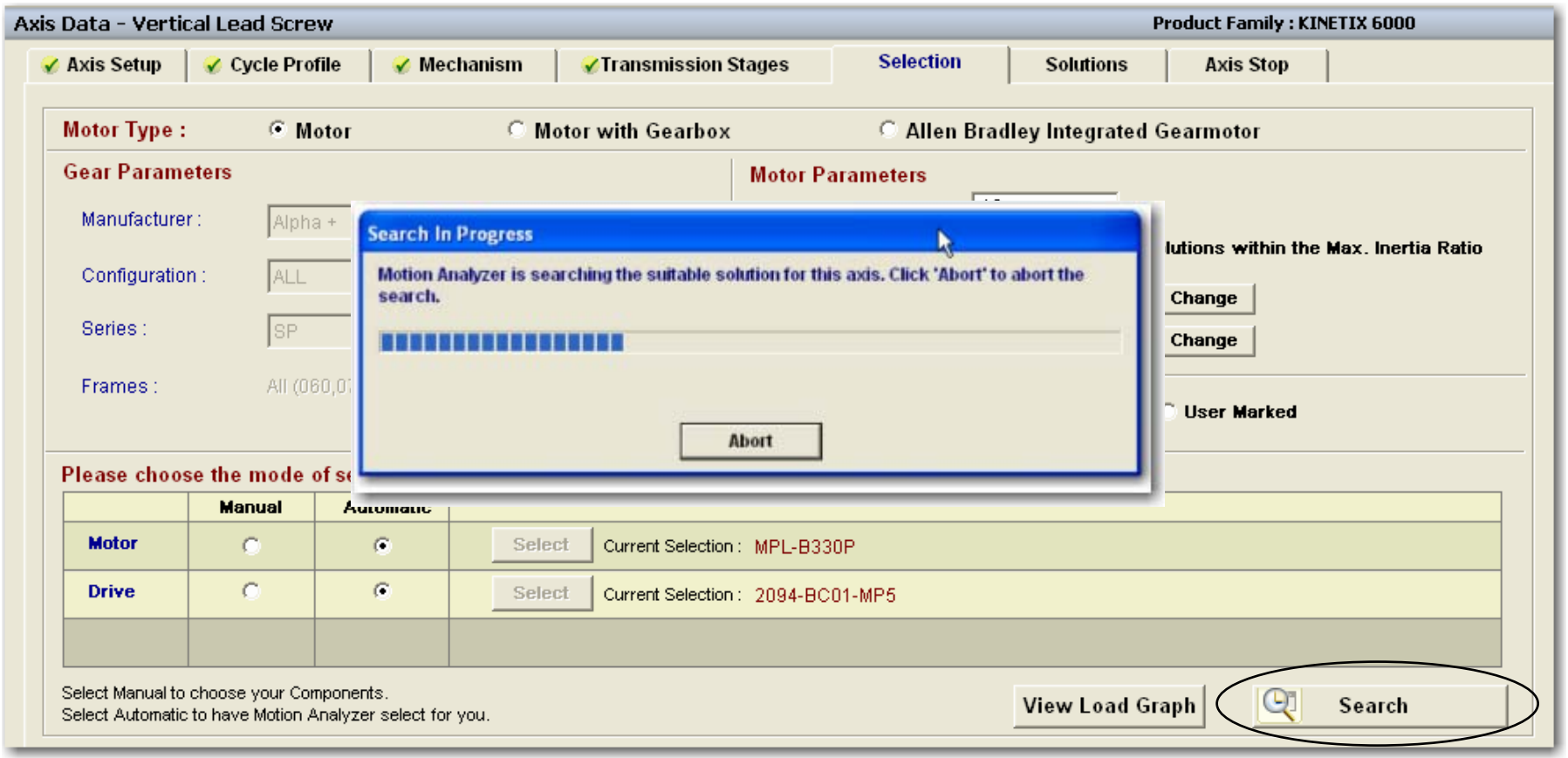
Chain & Spro



Or Rack & Pinion

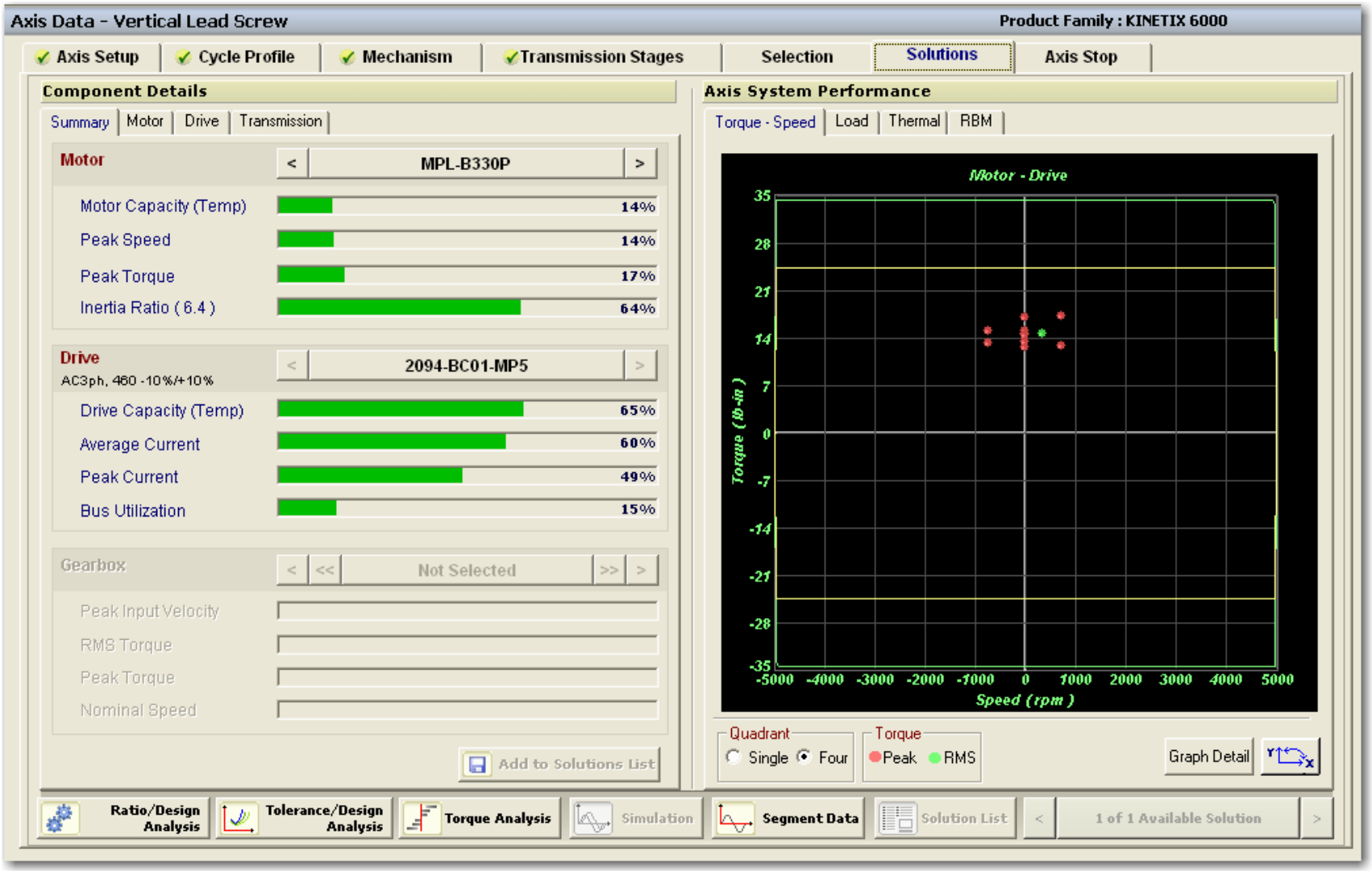
What is Motion Analyzer?

Search for a motor and drive solution



What is Motion Analyzer?

Observe the results…



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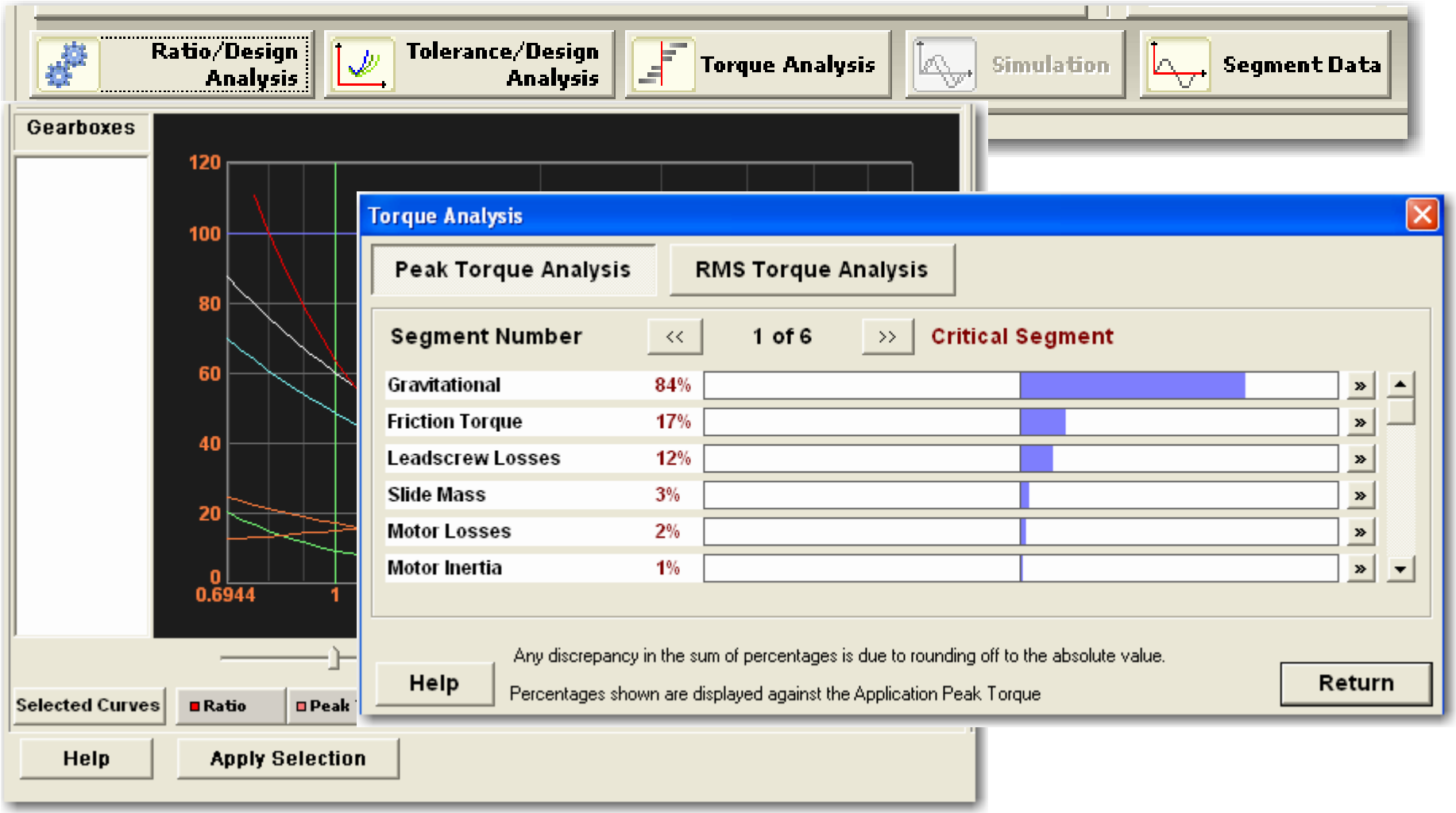
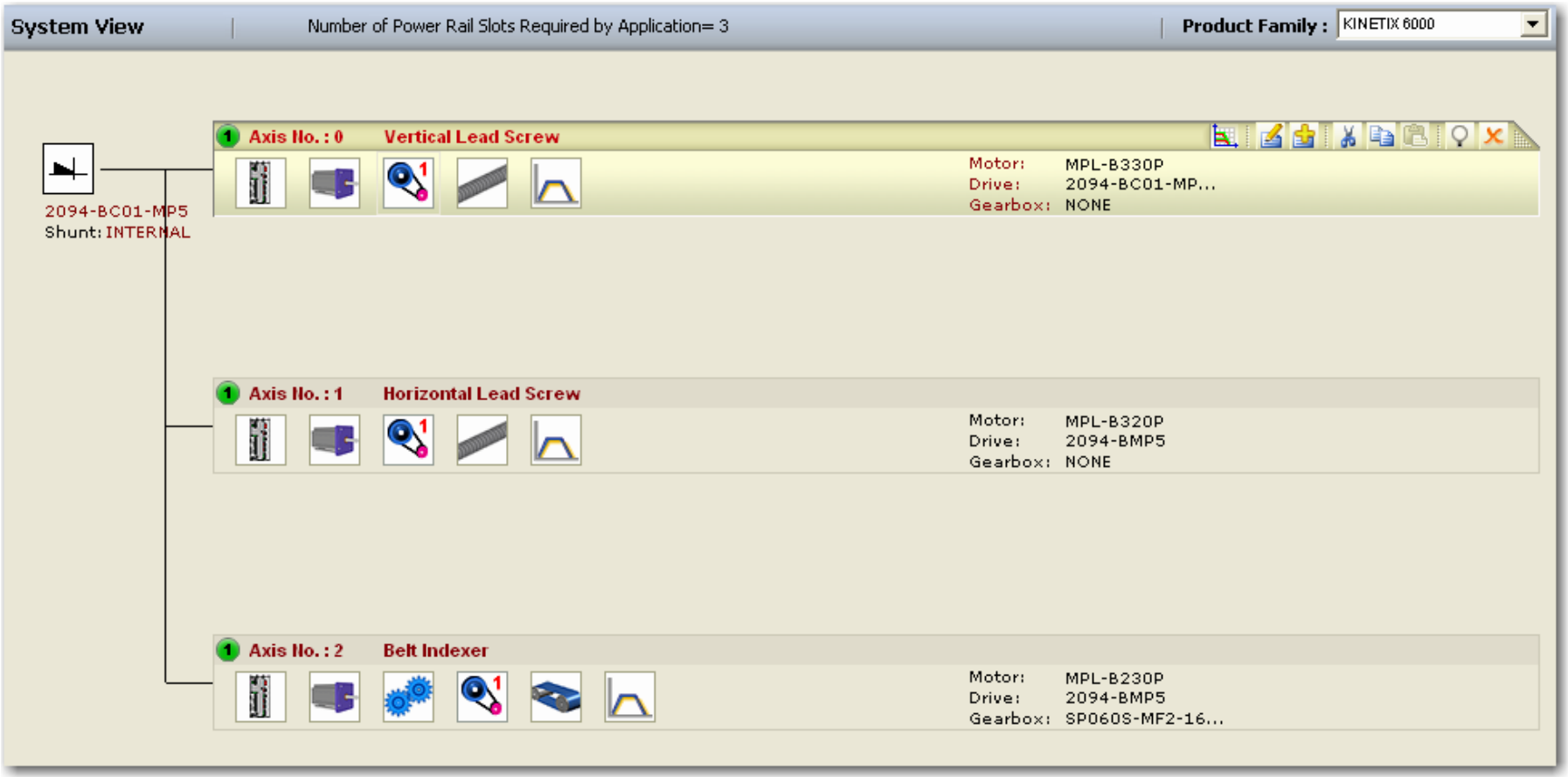
What is Motion Analyzer?

Or look for a better solution with the Analysis Tools



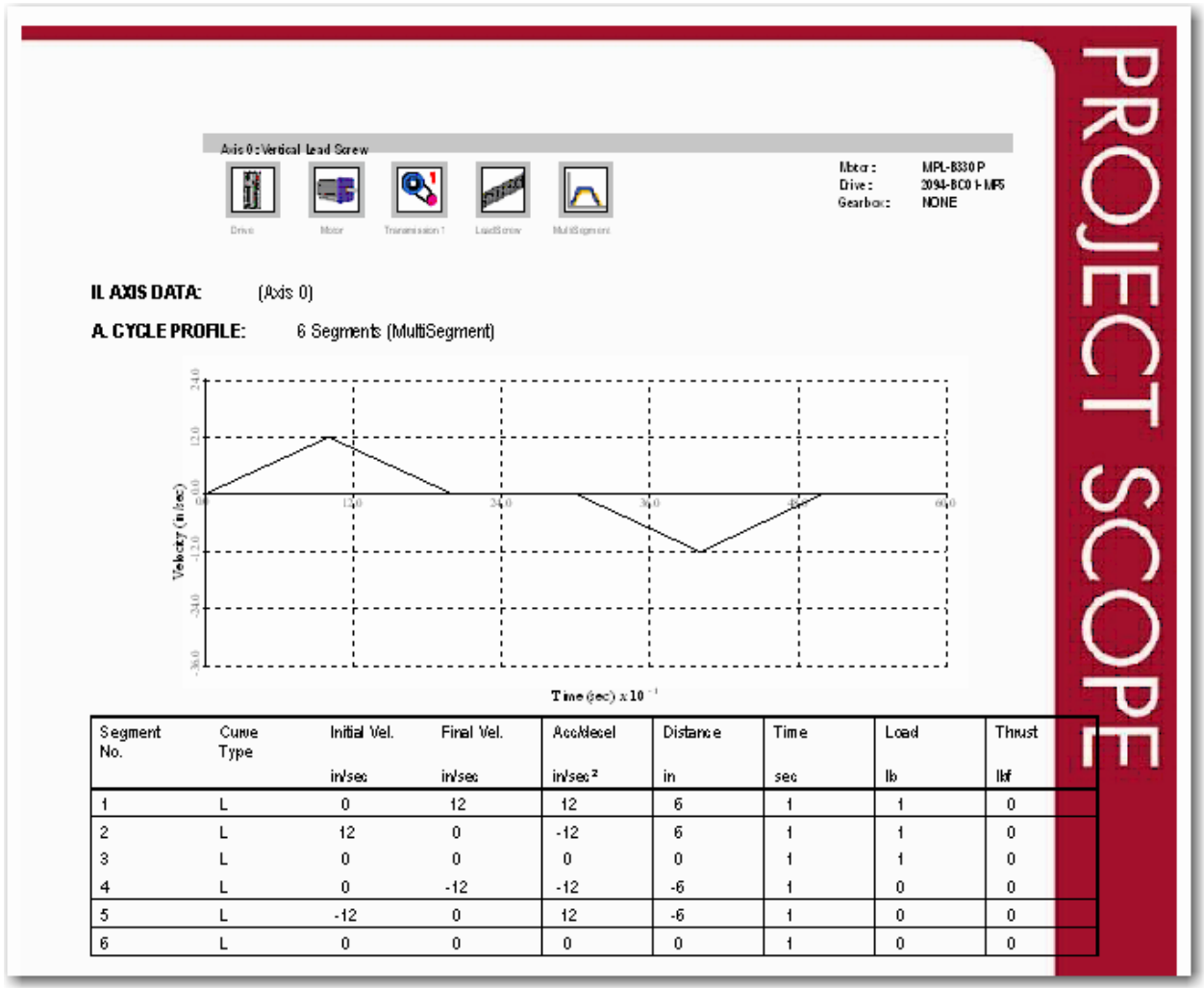
What is Motion Analyzer?

View the finished system



What is Motion Analyzer?

Print a system report



Segment No.	Curve Type	Initial Vel. in/sec	Final Vel. in/sec	Accl/decel in/sec²	Distance in	Time sec	Load lb	Thrust lbf
1	L	0	12	12	6	1	1	0
2	L	12	0	-12	6	1	1	0
3	L	0	0	0	0	1	1	0
4	L	0	-12	-12	-6	1	0	0
5	L	-12	0	12	-6	1	0	0
6	L	0	0	0	0	1	0	0

Where can I get Motion Analyzer?

You can obtain your *free* copy of Motion Analyzer software:

- By visiting http://www.ab.com/motion and downloading Motion Analyzer today
- By a copy of Kinetix Accelerator Toolkit PUB # IASIMP-SP004-ENC

Agenda

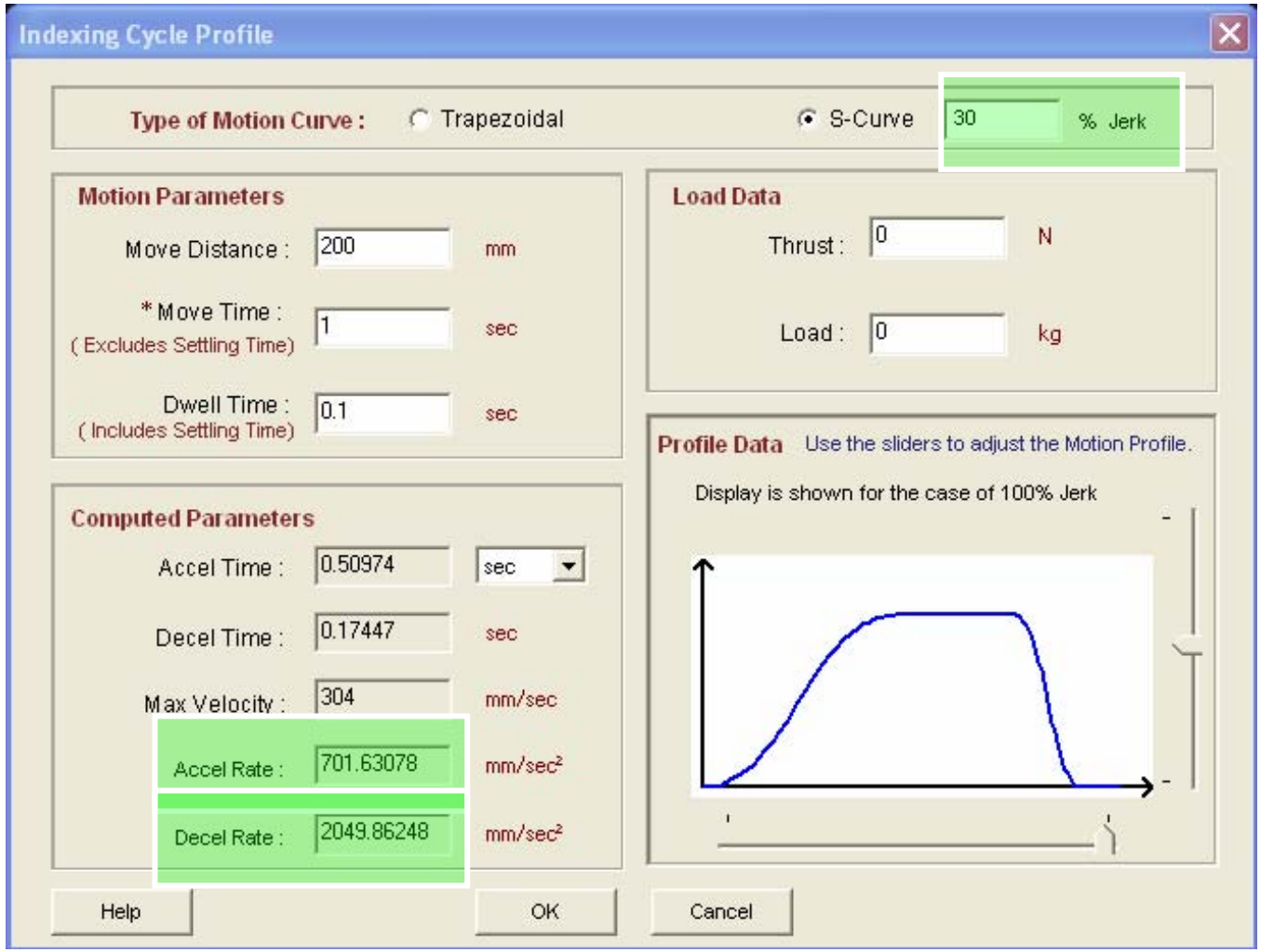
1. What is Motion Analyzer?
2. What is New?
3. Using Motion Selector
4. What is coming in V4.5 and beyond?

What is New?

- Kinetix 2000!
- Actuators!
- Larger screen format
- System Notes – always visible and direct editing
- Axis Setup tab with improved graphics to aid data input

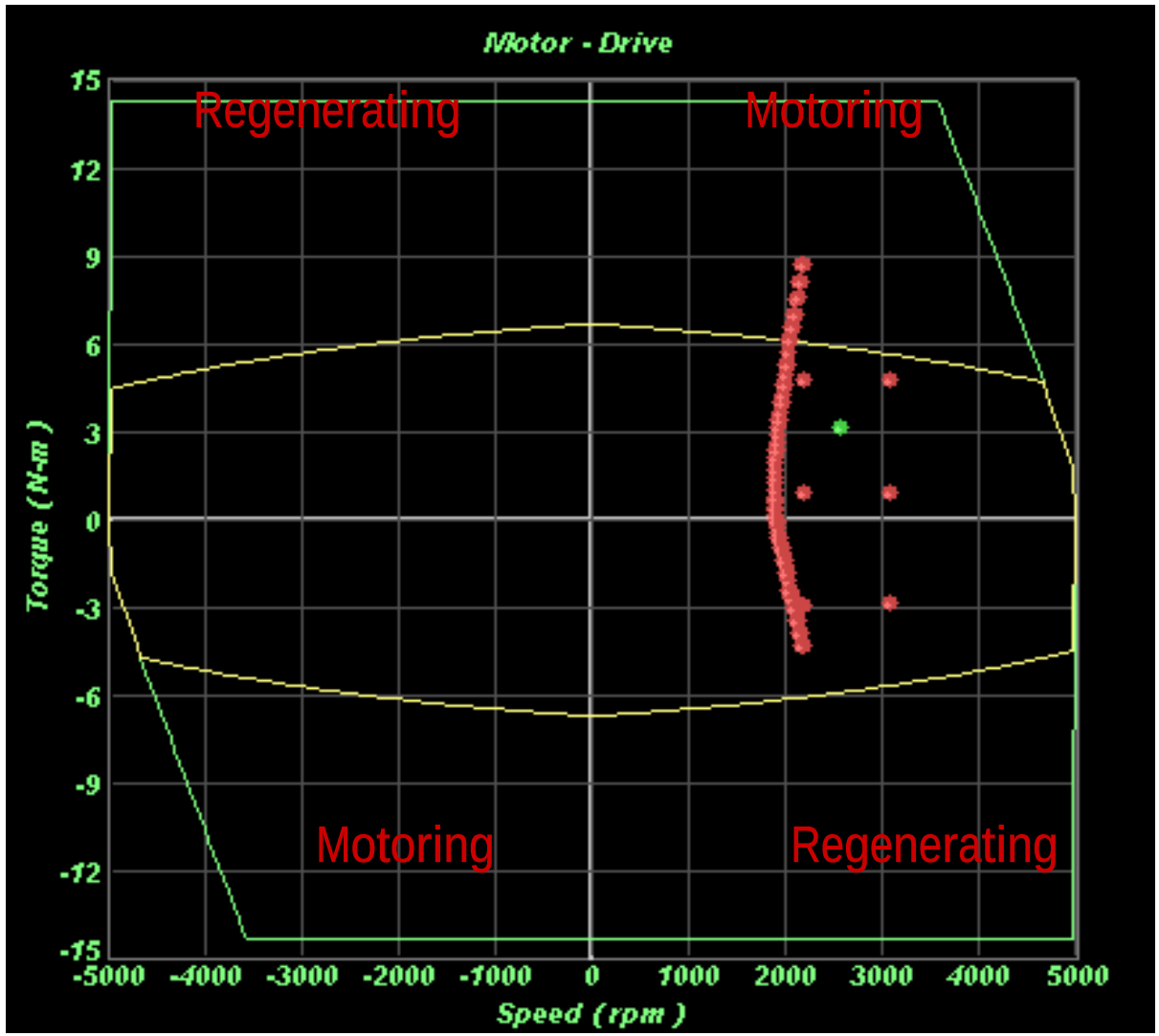
What is New?

- Cycle Profile Tab
  - Wider graph display
  - Variable Jerk (% time) to match the new MAM instruction in Logix V16.
  - Accel/Decel rates reported (Indexing Profile)could be used to populate a MAM instruction.



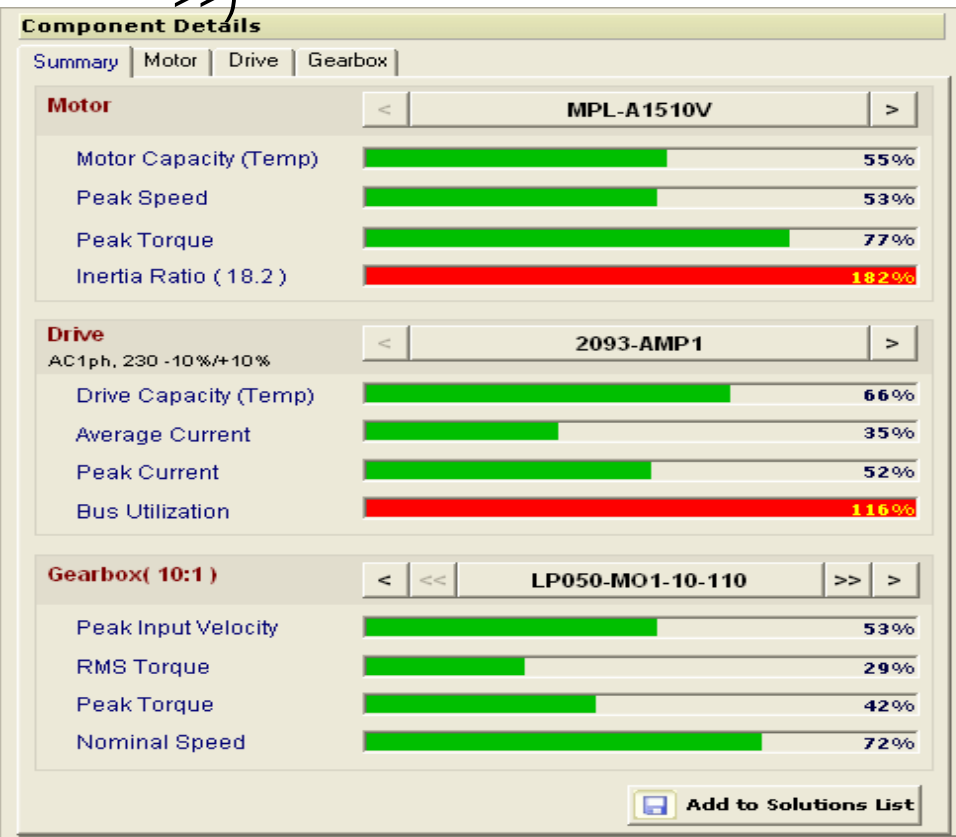
What is New?

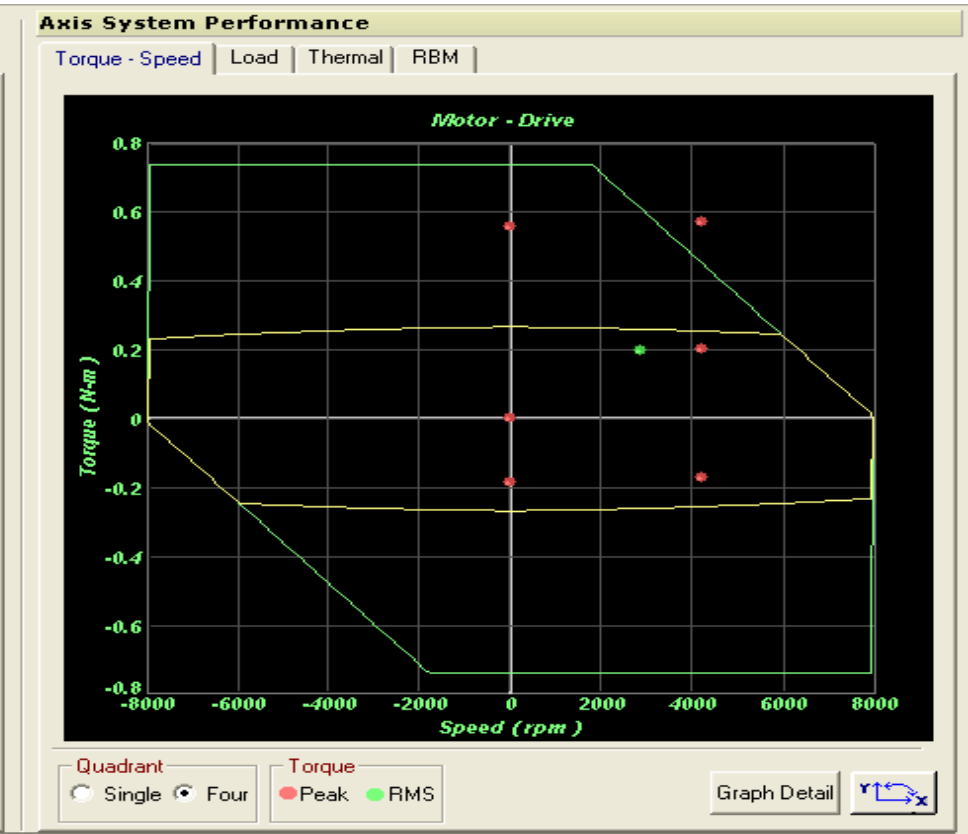
- Solutions Tab
  - Four Quadrant Torque/Speed display (can be switched back to 2 Quadrant)
  - This shows that the regenerative Torque/Speed curve is actually different from the motoring one that is all we normally see.
  - This is very helpful when complex cam profiles are examined



What is New?

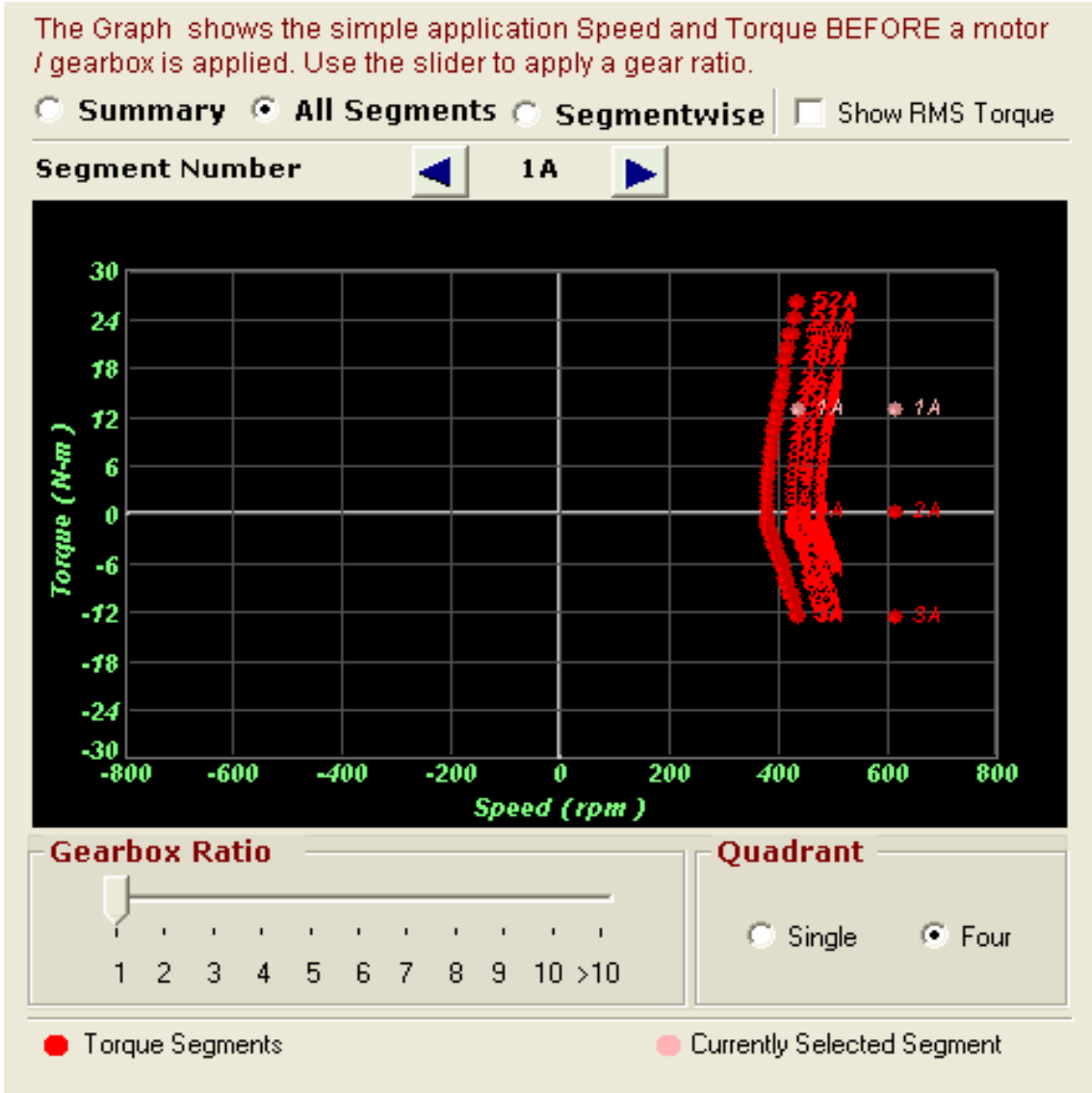
- Solutions Tab
  - Up/down stepping of motor and drive sizes (< >)
  - Up/down stepping of gearbox ratio (< >) and frame size (<< >>)





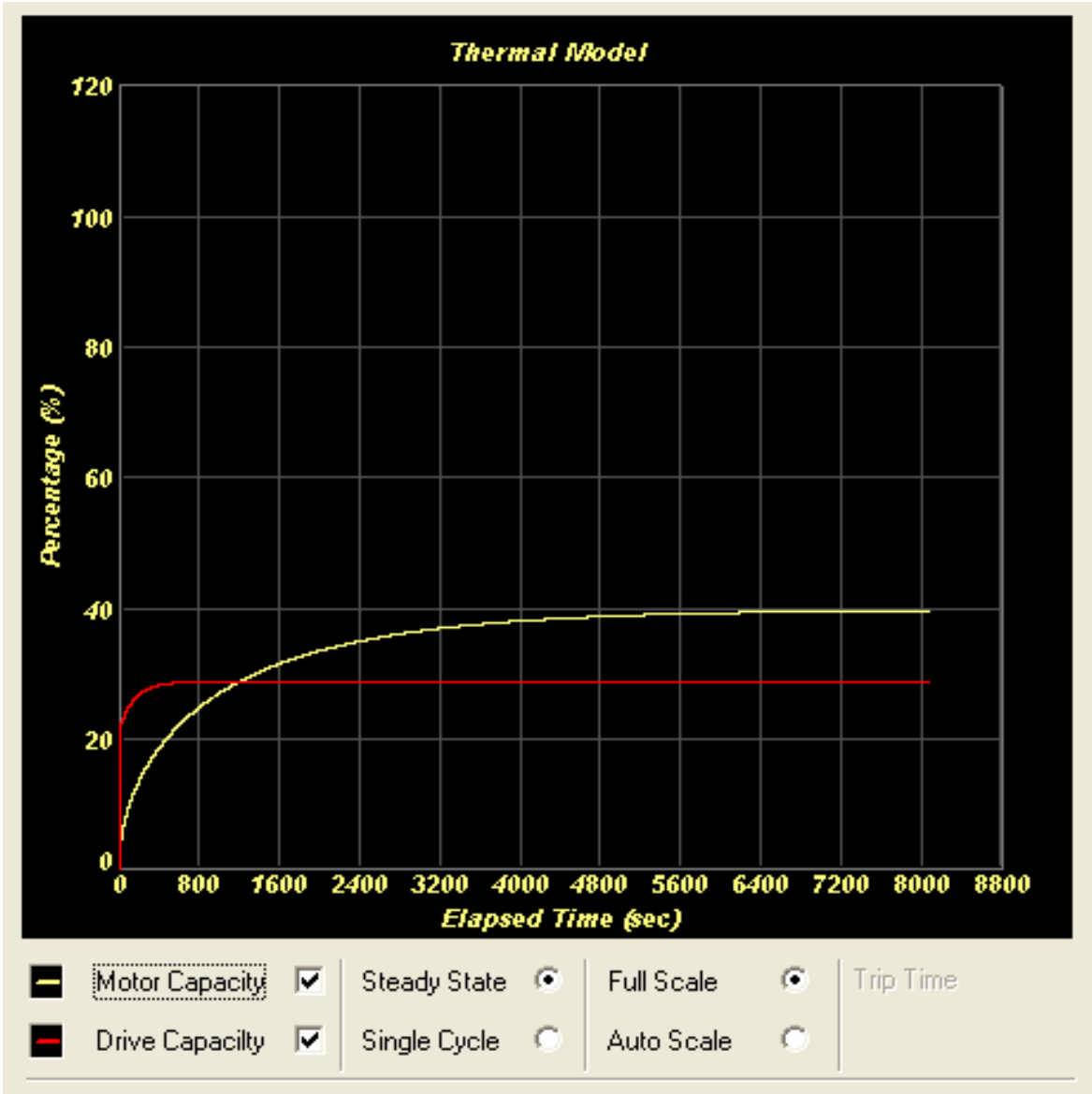
What is New?

- Solutions Tab
  - Display of load only torque demand (independent of drive/motor)



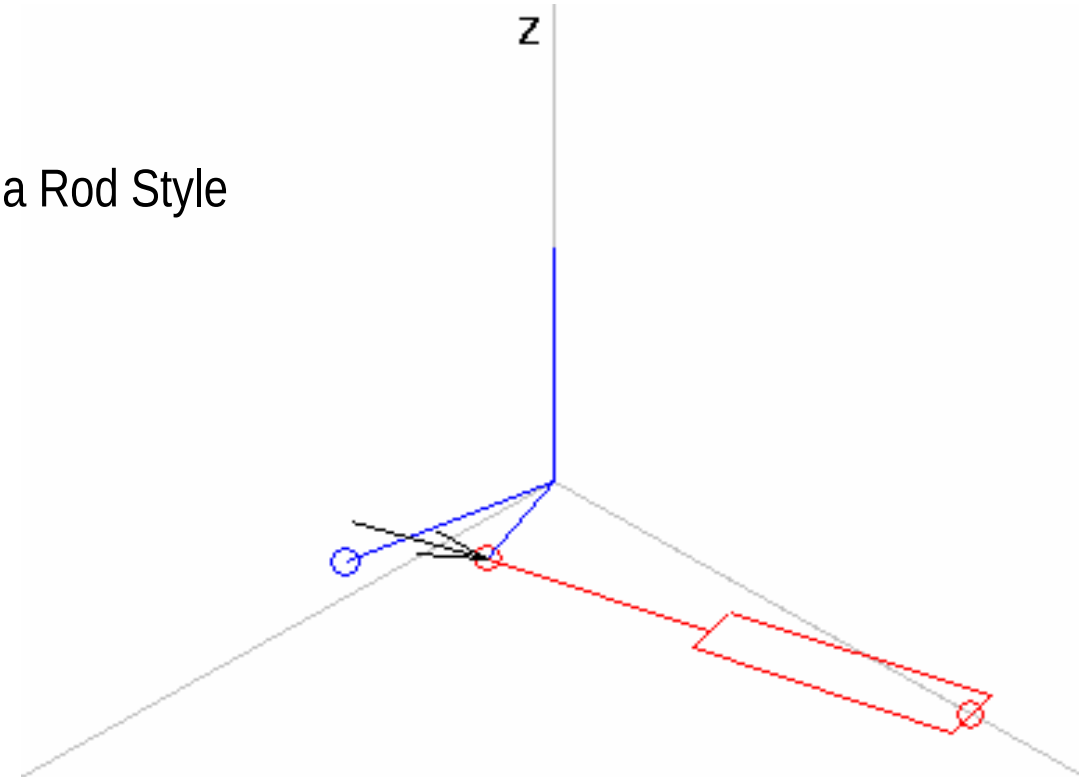
What is New?

- Solutions Tab
  - Analysis of drive thermal overload behaviour
  - Addition of “Drive Capacity” as defined by the thermal overload function.



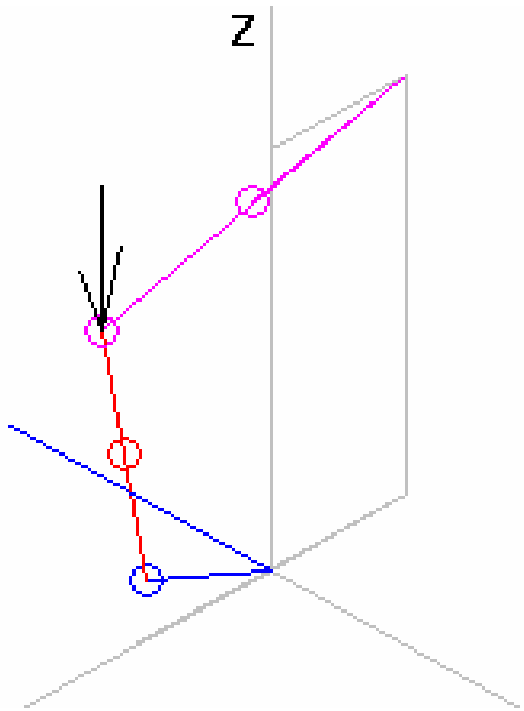
What is New?

- New User Defined Templates
  - Inverse Crank
  - A rotary load driven by a Rod Style Actuator



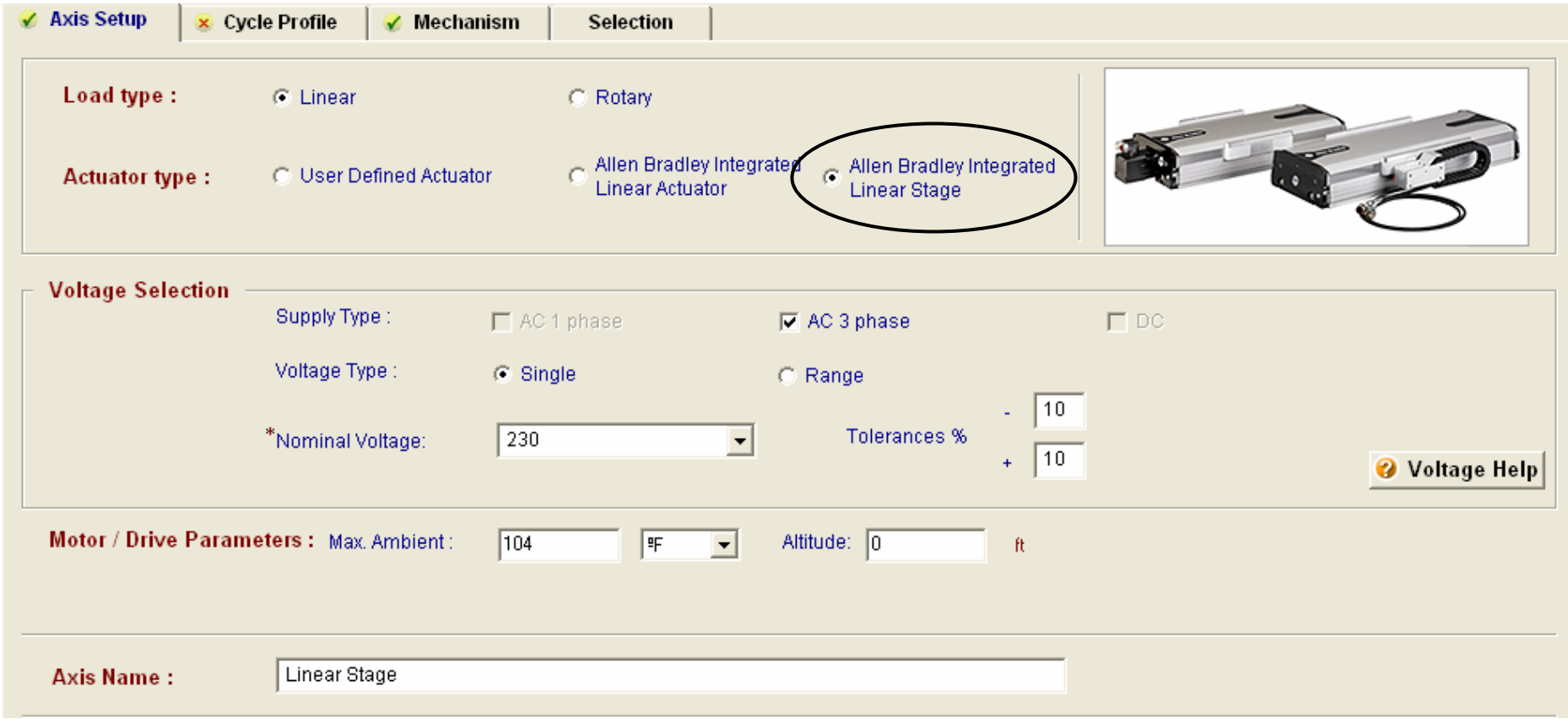
What is New?

- New User Defined Templates
  - Four Bar Linkage
  - A crank driving an oscillating radius arm



What is new in V4.4?

- Sizing support for linear stages!



More Info in the MPAS Topic...

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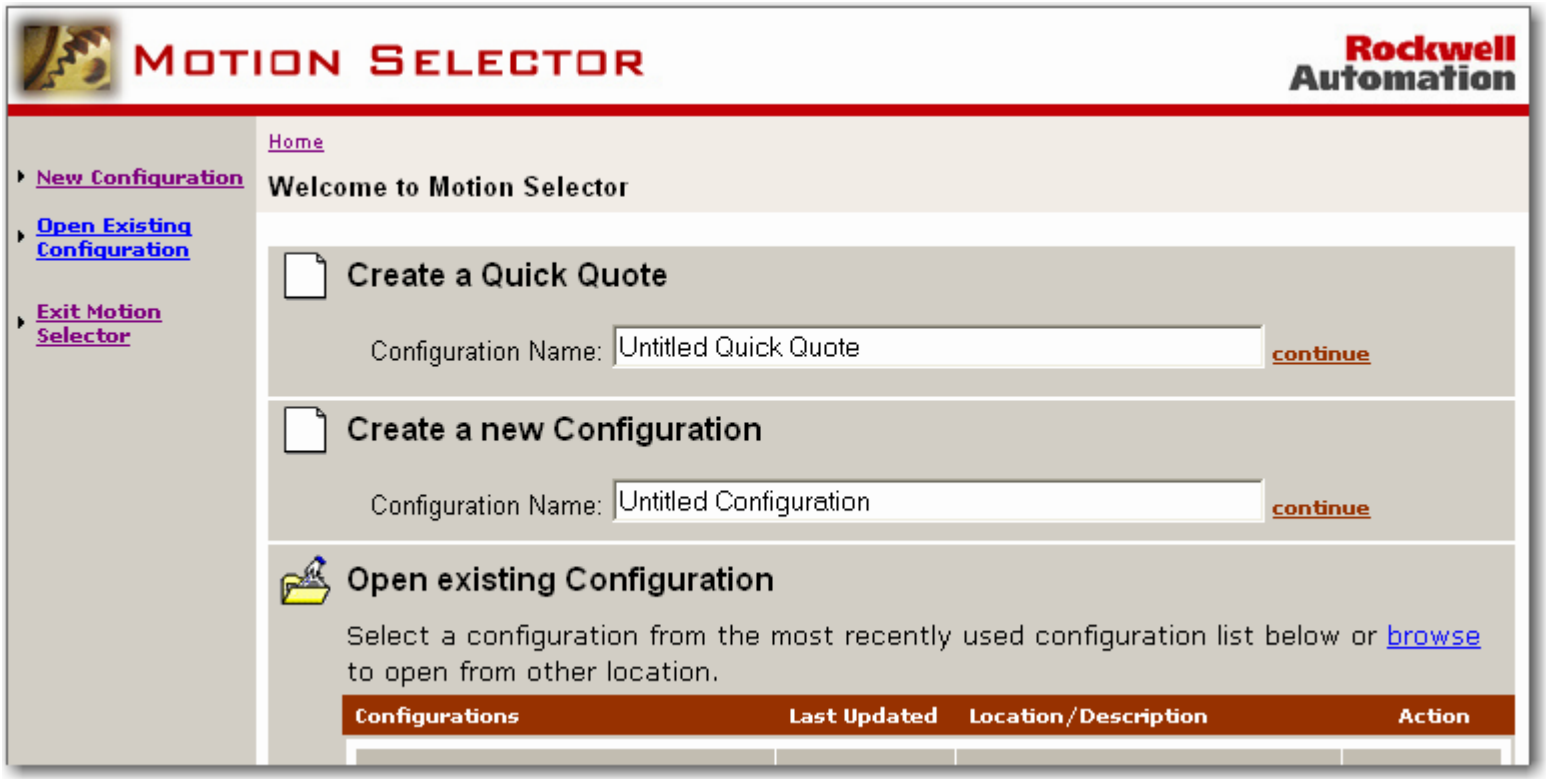
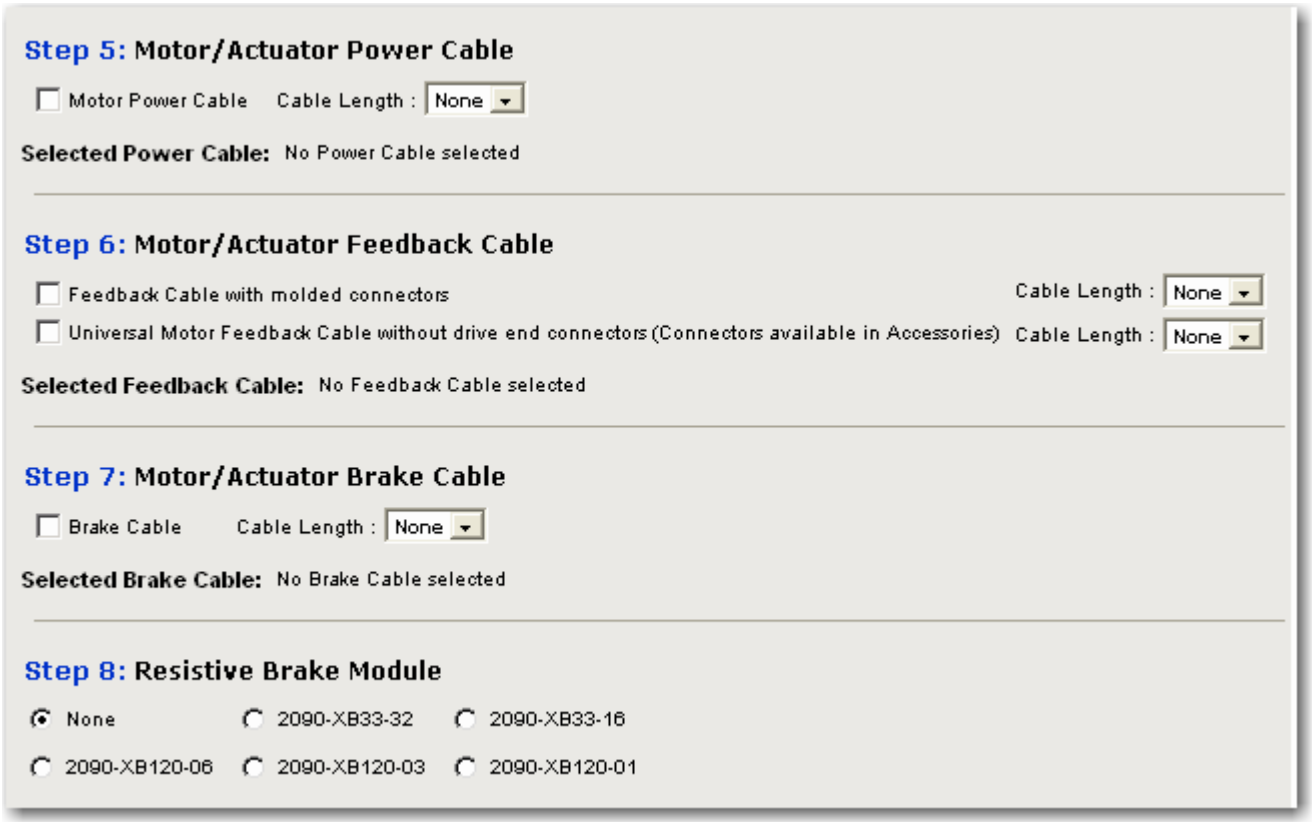
Using Motion Selector

Turn your Motion Analyzer file into a *complete* Bill of Material



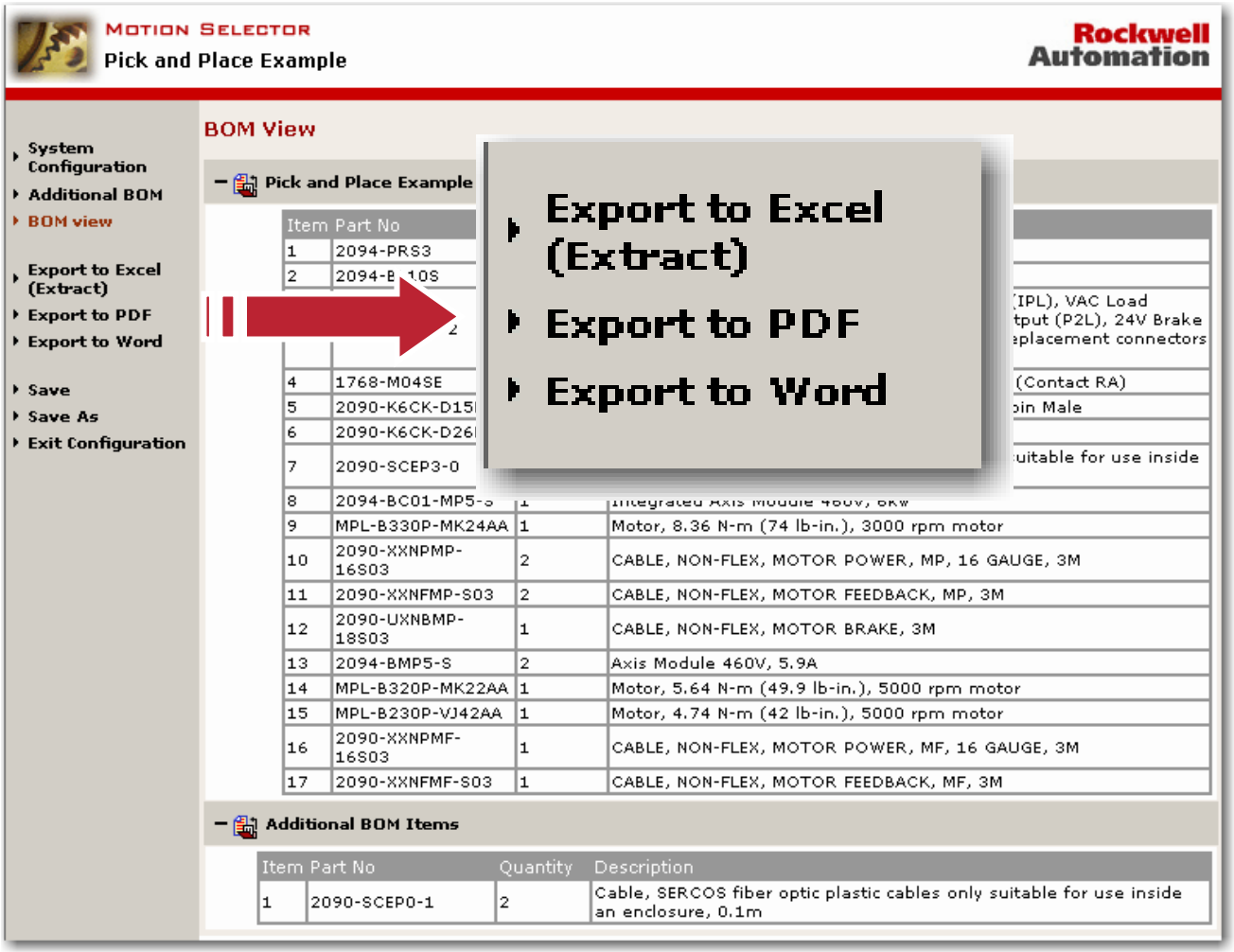
Using Motion Selector

Add the cables and accessories that you need



Using Motion Selector

View the Bill of Material and export to desired format



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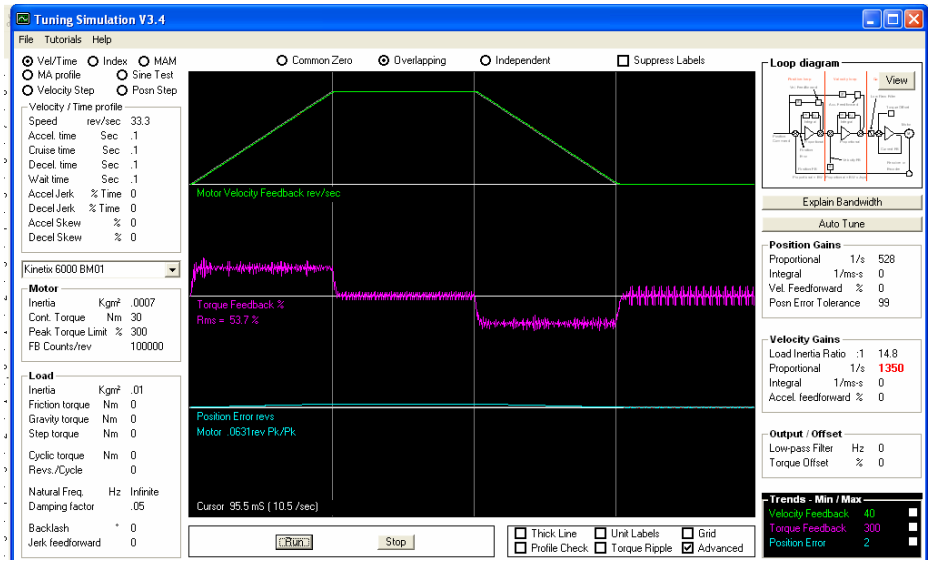
MA & MS in 2008 – Future

- Version 4.5
  - Move profile editor:
    - More Quick Index tools
    - CAM moves
    - Export moves & to Logix (AOI)
  - SolidWorks (import inertia)
  - Standard drives support
  - *Scheduled May 2008*
- Version 5.0
  - Greatly improved architecture
  - “Fill in the Form” model
  - More profile editor enhancements
  - More SolidWorks interaction
  - *Scheduled Fall 2008*



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