

Understanding Thrust Curves

Actuator Thrust Curves are very similar to Servo Torque Curves, but relate to linear motion performance instead of shaft rotation performance. All thrust curves show continuous and peak performance based on the coupled system of Servo and Actuator together. The following examples show the 2 exceptions to the previous statement, where the actuators limitations are taken into account.

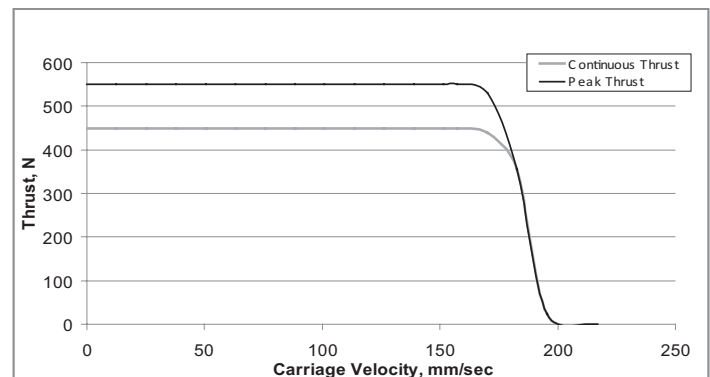
Note: The continuous thrust region is where the system should be operated, except for short hard accelerations required in your motion profile. Sustained Operation outside the continuous region will reduce the rated life on the actuator/integrated motor system. Please check the specifications of each actuator for limiting factors such as mechanical critical speed and thrust limits.

Limitation on Thrust Output Example

The curve to the right shows that there is a maximum amount of thrust the actuator can put out continuously and peak. That is why the curve abruptly flattens out (horizontal line) at speeds less than 150 mm/sec. This curve shows that the motor can provide more input torque than the actuator can handle at speeds less than 150 mm/sec.

Note: In this example, the maximum allowable thrust is limited to 550 N. Exceeding that could potentially damage the actuator even if the motor limits are not exceeded.

**HLD60 Single Rail/Internal Rollers
SM23165DT @ 48V, 2.5mm/rev**

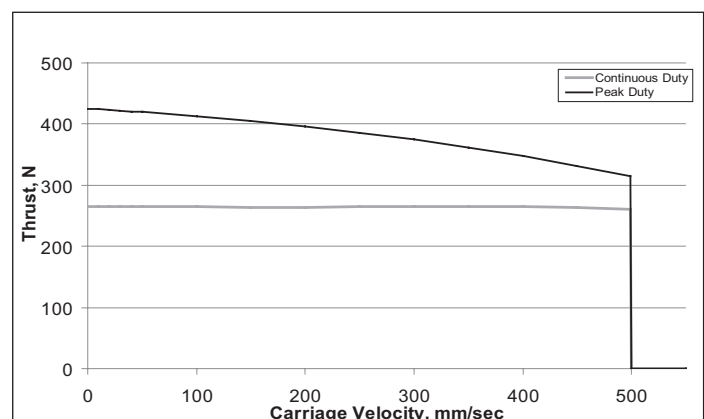


Limitation of Actuator's Speed Example

The curve to the right shows that at 500 mm/sec, the thrust abruptly goes to zero (the vertical line). This means that the actuator has a maximum carriage velocity of 500 mm/sec usually due to ball screw limitations.

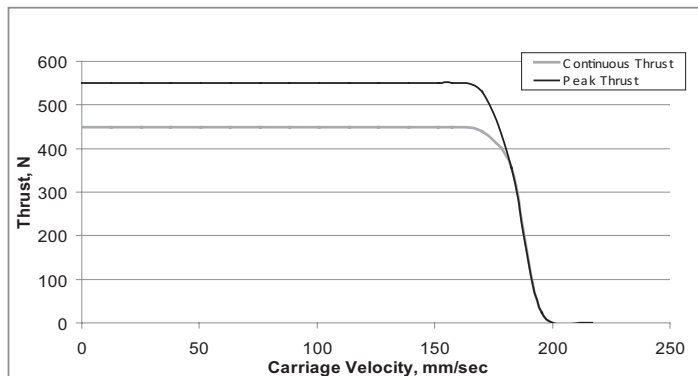
Note: This speed limitation is mechanically based. It is possible to command a servo speed in excess of the Critical speed limits of the actuator. Doing so increases risk of damage and will shorten the life of the actuator.

VL-ST45 - SM2316D @ 48V, 6mm/rev lead ball screw



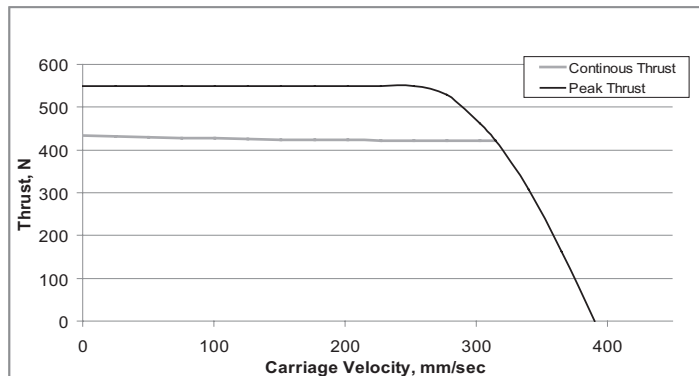
OVERVIEW

HLD60 Single Rail/Internal Rollers SM23165DT @ 48V, 2.5mm/rev



*450 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165DT @ 48V, 5mm/rev



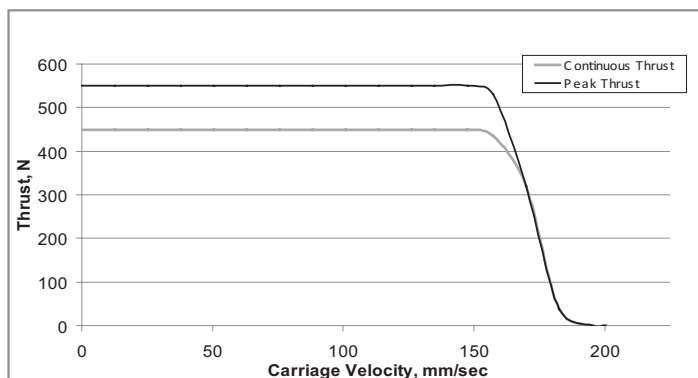
*420 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

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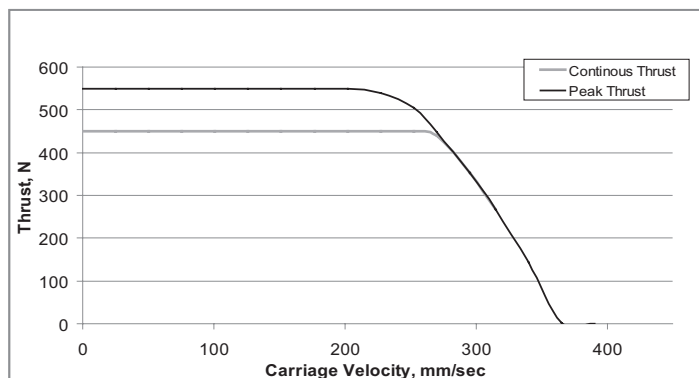
CONNECTIVITY

HLD60 Single Rail/Internal Rollers SM23165DT @ 42V, 2.5mm/rev



*450 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165DT @ 42V, 5mm/rev

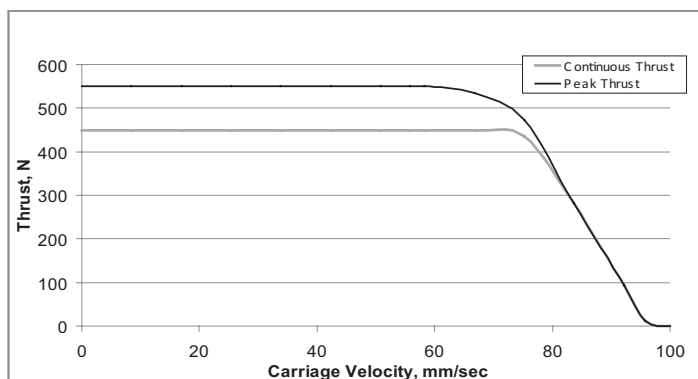


*420 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

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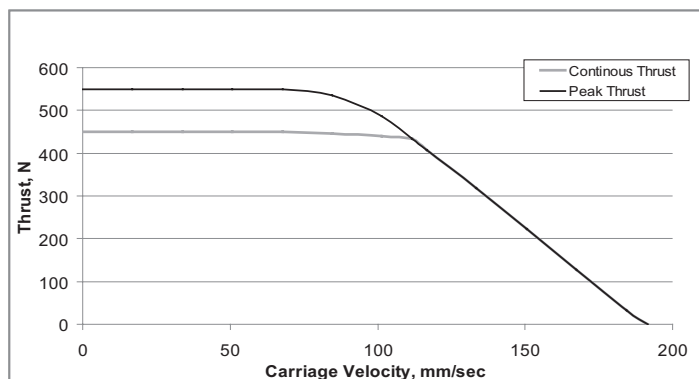
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HLD60 Single Rail/Internal Rollers SM23165DT @ 24V, 2.5mm/rev



*450 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165DT @ 24V, 5mm/rev



*420 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

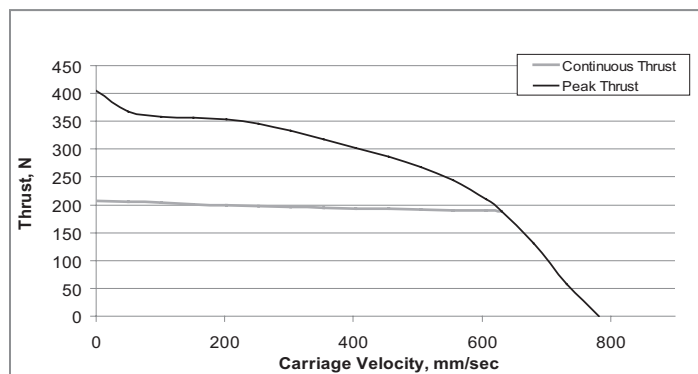
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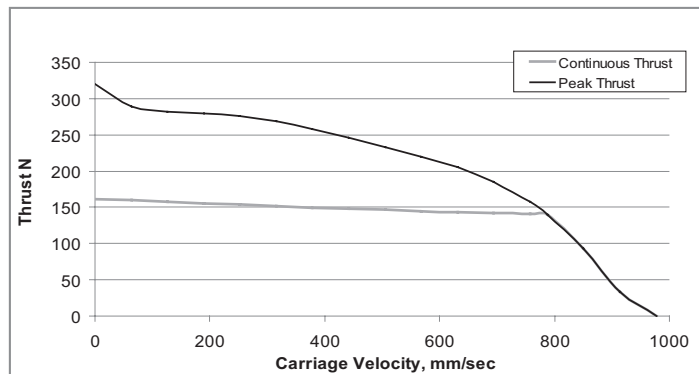
NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

**HLD60 Single Rail/Internal Rollers
SM23165DT @ 48V, 10mm/rev**



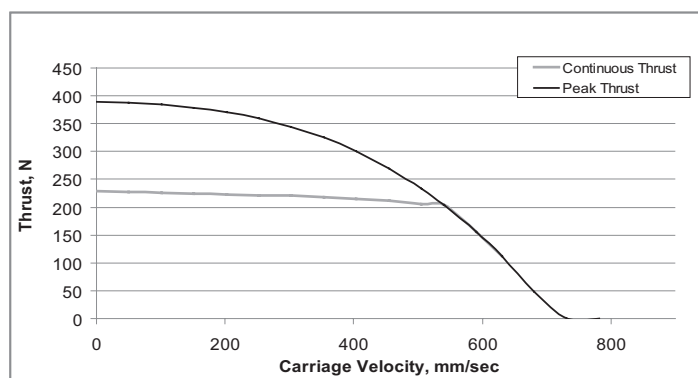
*185 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

**HLD60 Single Rail/Internal Rollers
SM23165DT @ 48V, 12.5mm/rev**



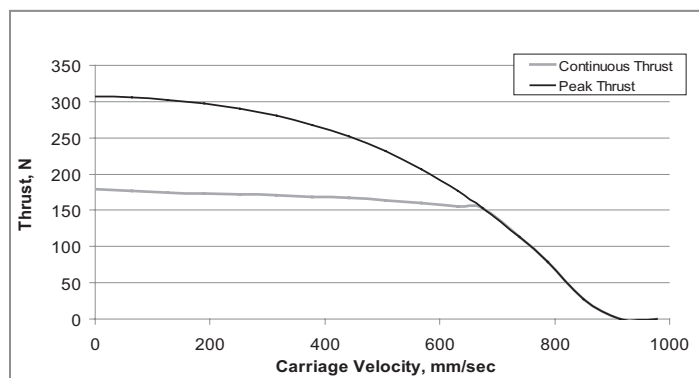
*135 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

**HLD60 Single Rail/Internal Rollers
SM23165DT @ 42V, 10mm/rev**



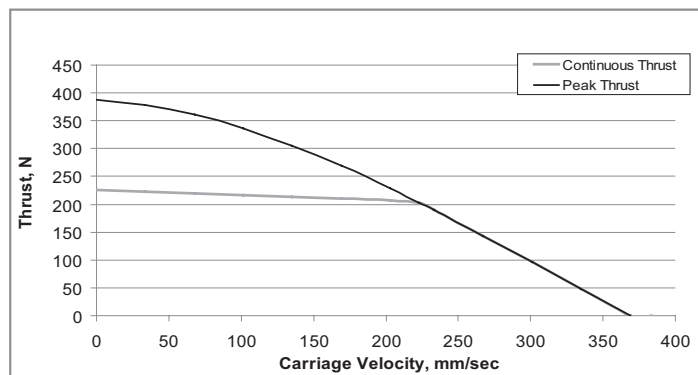
*185 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

**HLD60 Single Rail/Internal Rollers
SM23165DT @ 42V, 12.5mm/rev**



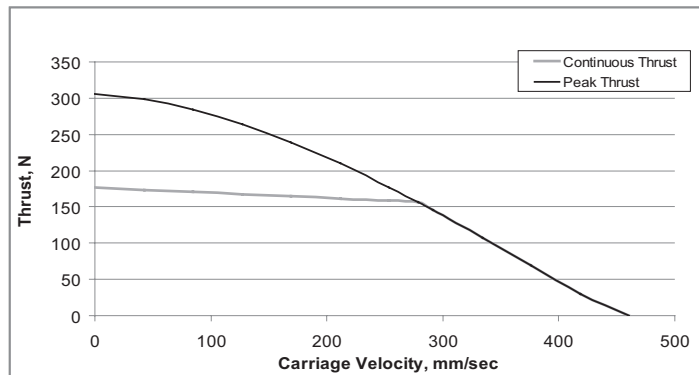
*135 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

**HLD60 Single Rail/Internal Rollers
SM23165DT @ 24V, 10mm/rev**



*185 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

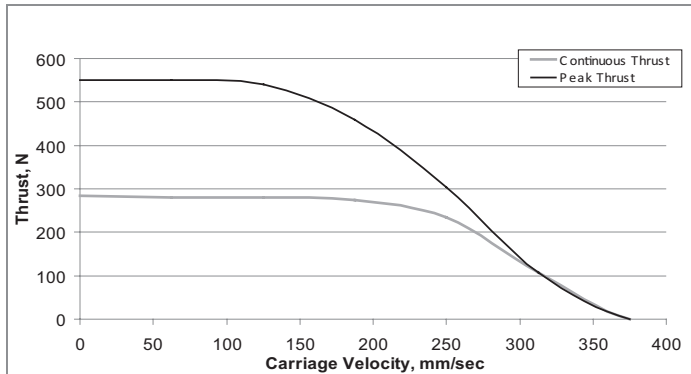
**HLD60 Single Rail/Internal Rollers
SM23165DT @ 24V, 12.5mm/rev**



*135 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

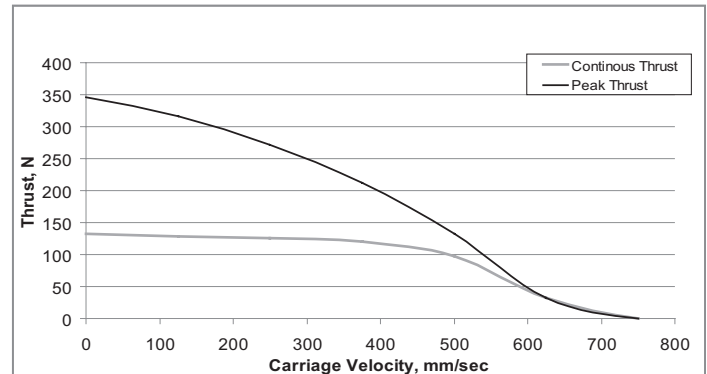
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HLD60 Single Rail/Internal Rollers SM23165D @ 48V, 2.5mm/rev



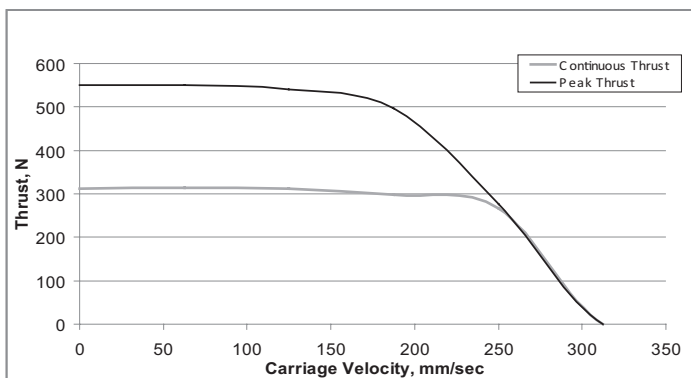
*284 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165D @ 48V, 5mm/rev



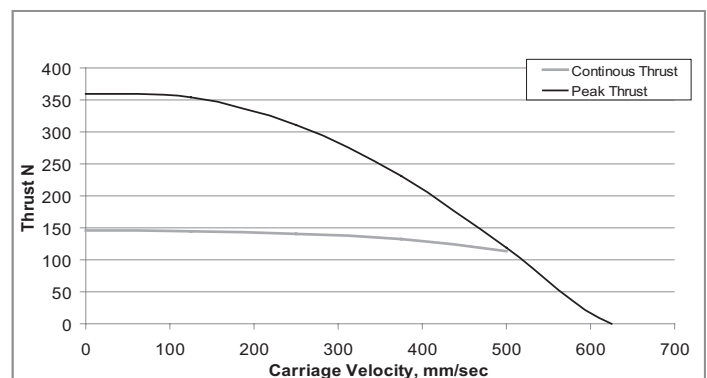
*132 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165D @ 42V, 2.5mm/rev



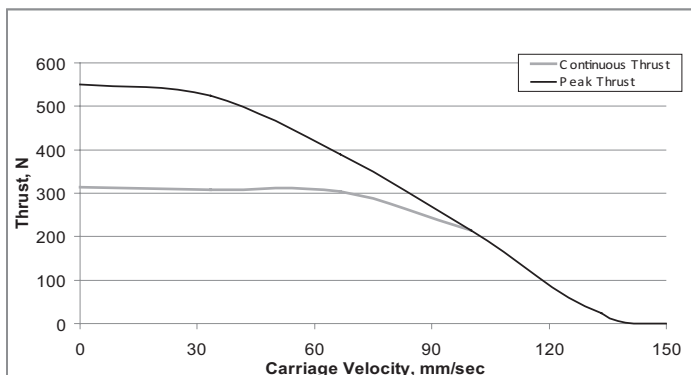
*284 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165D @ 42V, 5mm/rev



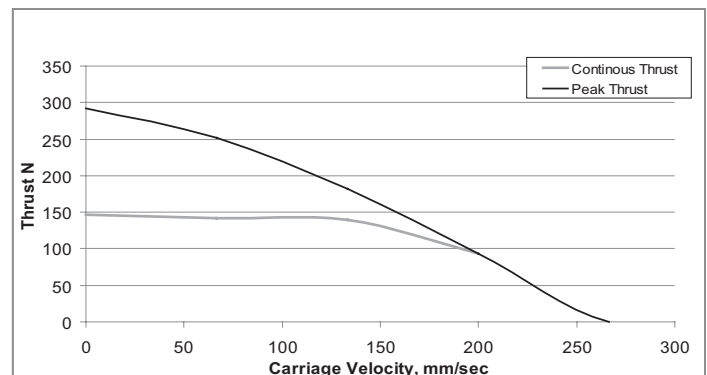
*132 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165D @ 24V, 2.5mm/rev



*284 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

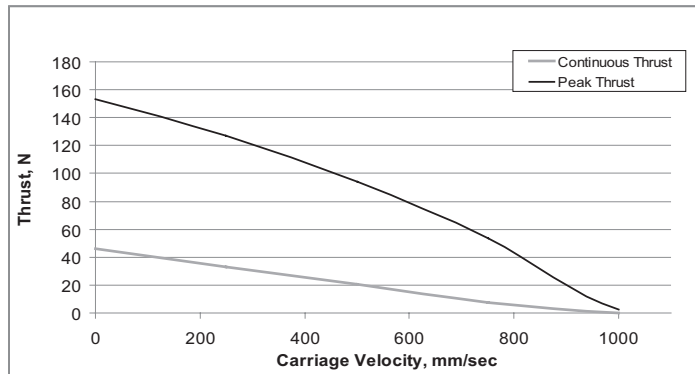
HLD60 Single Rail/Internal Rollers SM23165D @ 24V, 5mm/rev



*132 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

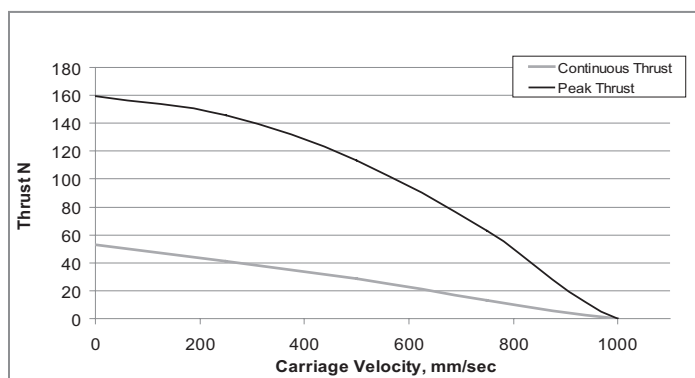
NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

HLD60 Single Rail/Internal Rollers SM23165D @ 48V, 10mm/rev



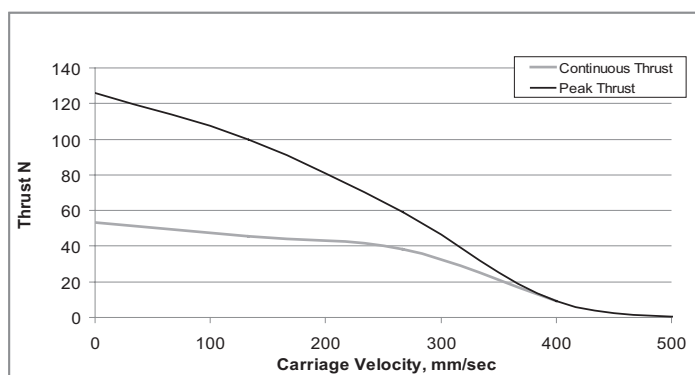
*45 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165D @ 42V, 10mm/rev



*45 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

HLD60 Single Rail/Internal Rollers SM23165D @ 24V, 10mm/rev



*45 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

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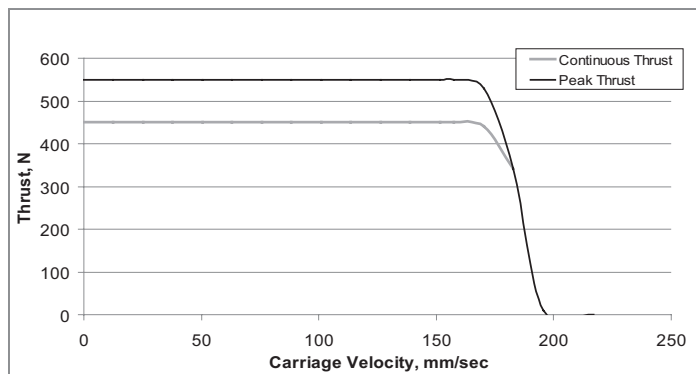
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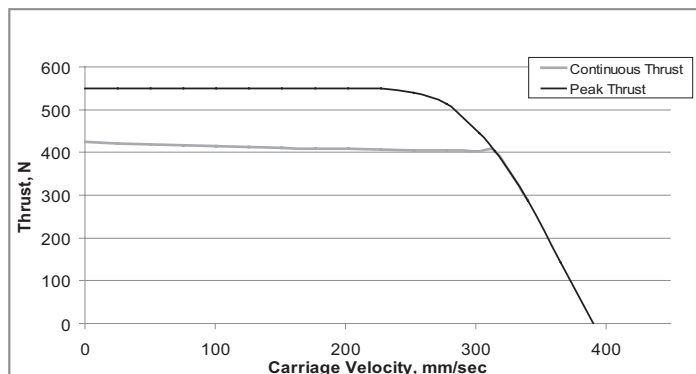
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HLD60 Twin Rails - SM23165DT @ 48V, 2.5mm/rev



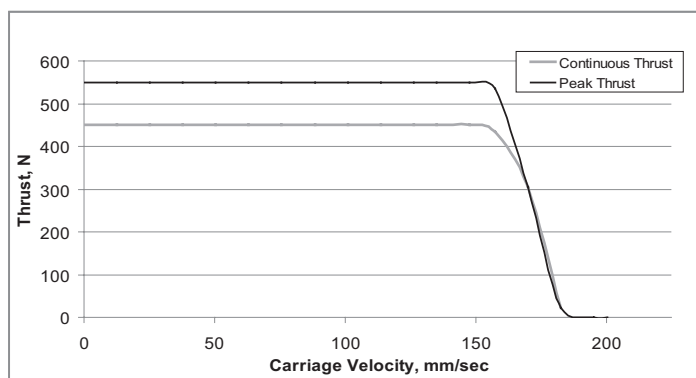
*450 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 48V, 5mm/rev



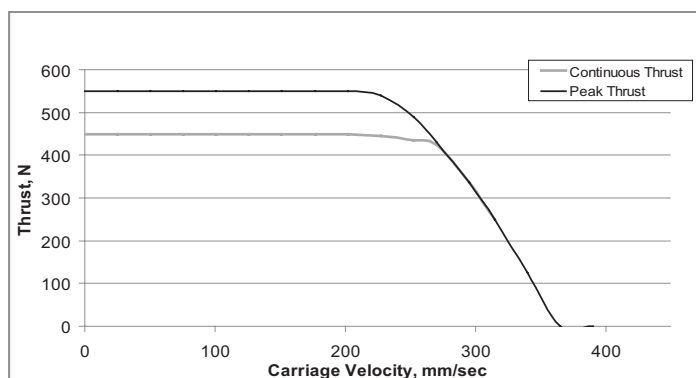
*400 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 42V, 2.5mm/rev



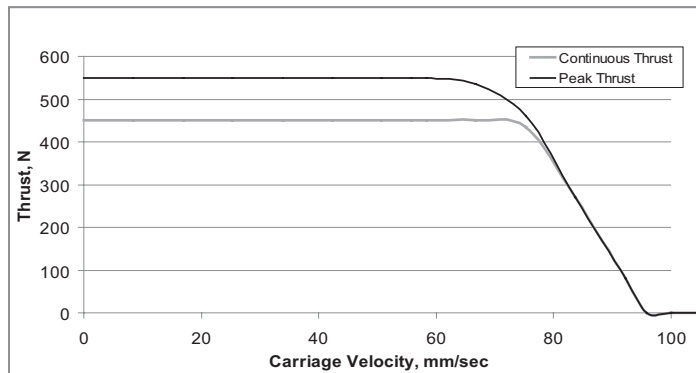
*450 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 42V, 5mm/rev



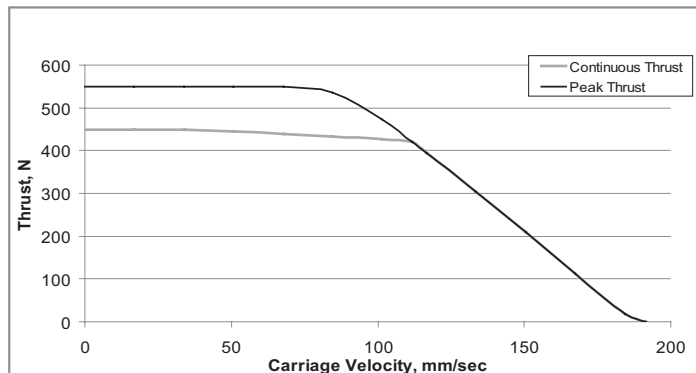
*400 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 24V, 2.5mm/rev



*450 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

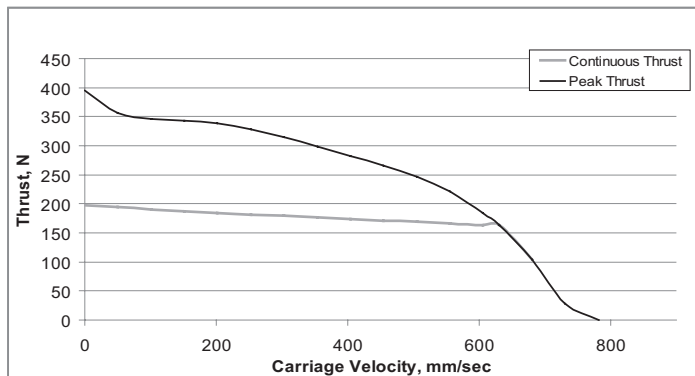
HLD60 Twin Rails - SM23165DT @ 24V, 5mm/rev



*400 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

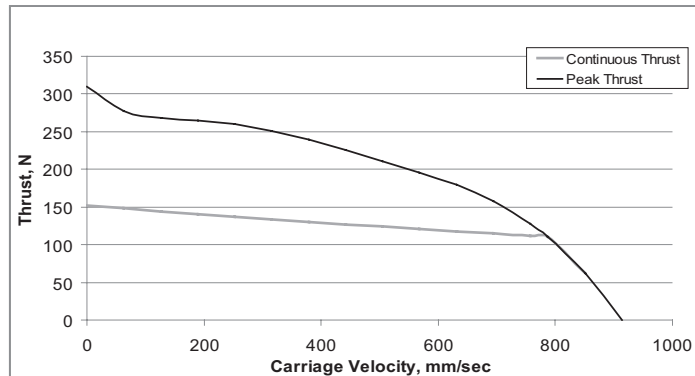
NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

HLD60 Twin Rails - SM23165DT @ 48V, 10mm/rev



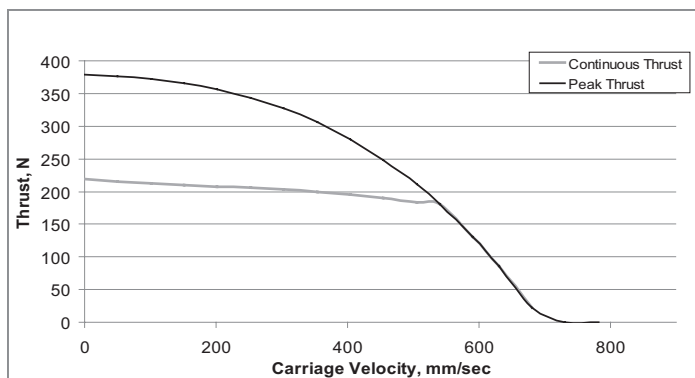
*160 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 48V, 12.5mm/rev



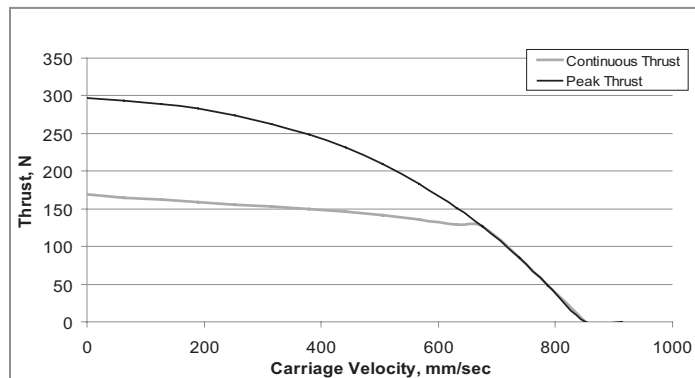
*105 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 42V, 10mm/rev



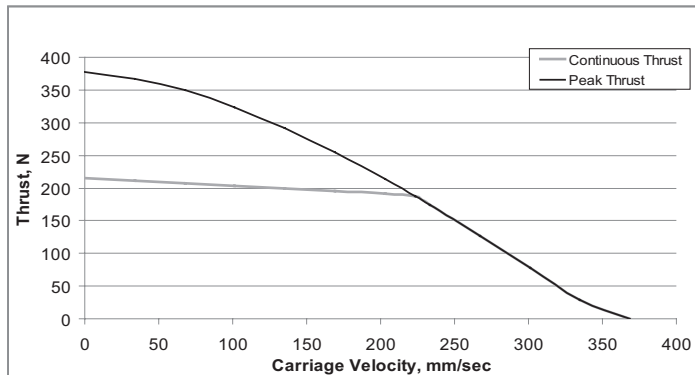
*160 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 42V, 12.5mm/rev



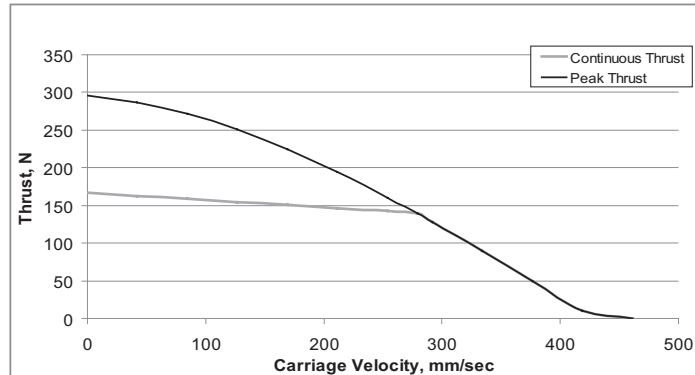
*105 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 24V, 10mm/rev



*160 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165DT @ 24V, 12.5mm/rev



*105 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

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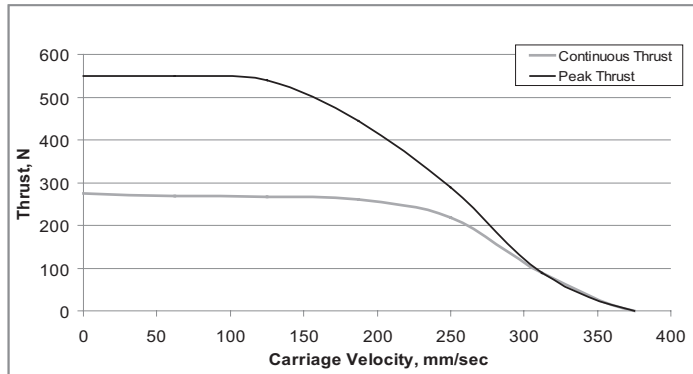
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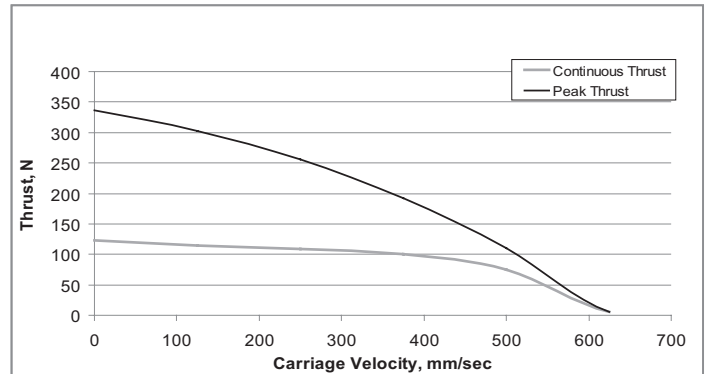
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HLD60 Twin Rails - SM23165D @ 48V, 2.5mm/rev



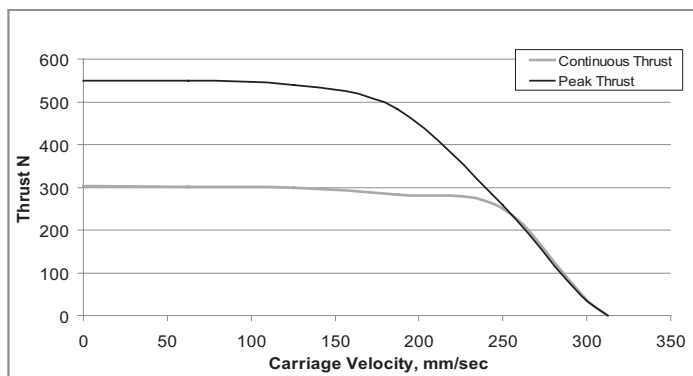
*274 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165D @ 48V, 5mm/rev



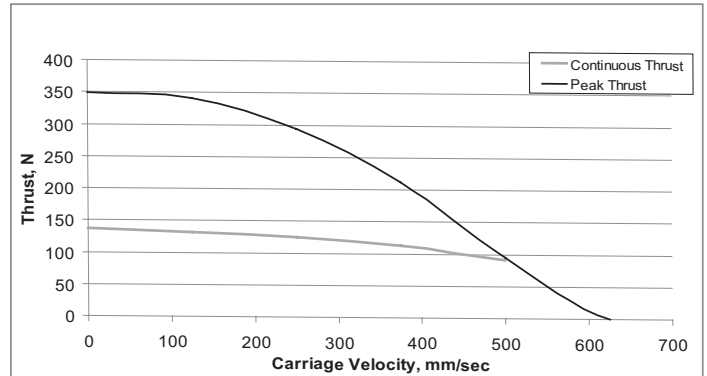
*122 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165D @ 42V, 2.5mm/rev



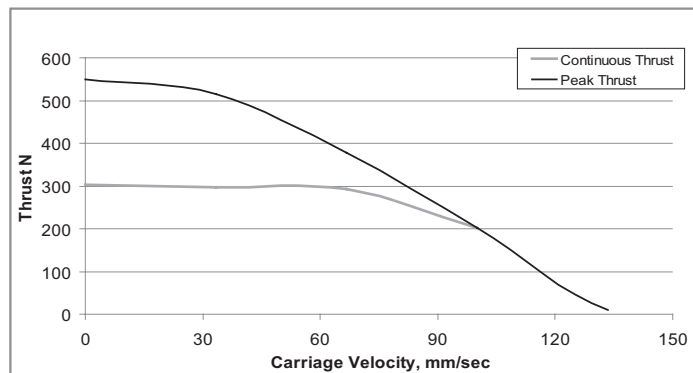
*274 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165D @ 42V, 5mm/rev



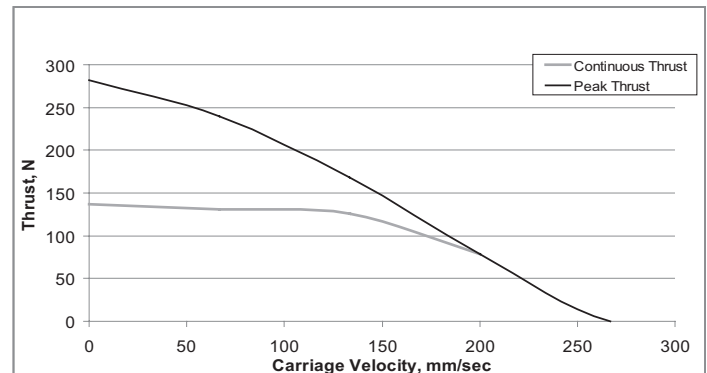
*122 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165D @ 24V, 2.5mm/rev



*274 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

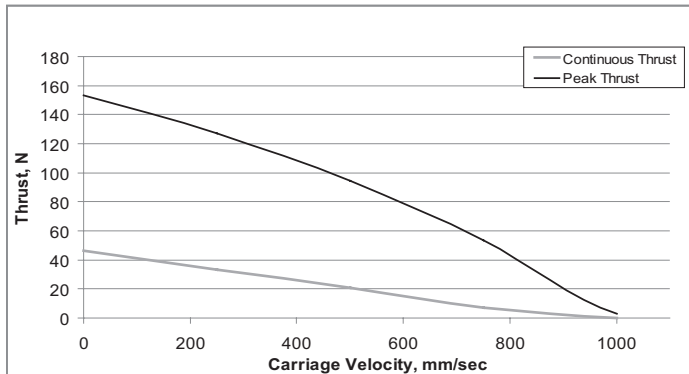
HLD60 Twin Rails - SM23165D @ 24V, 5mm/rev



*122 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

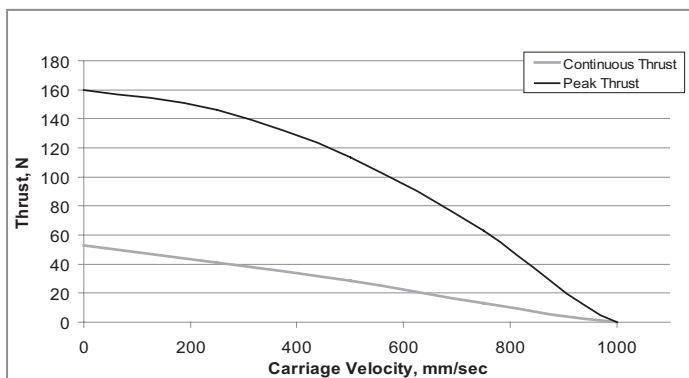
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HLD60 Twin Rails - SM23165D @ 48V, 10mm/rev



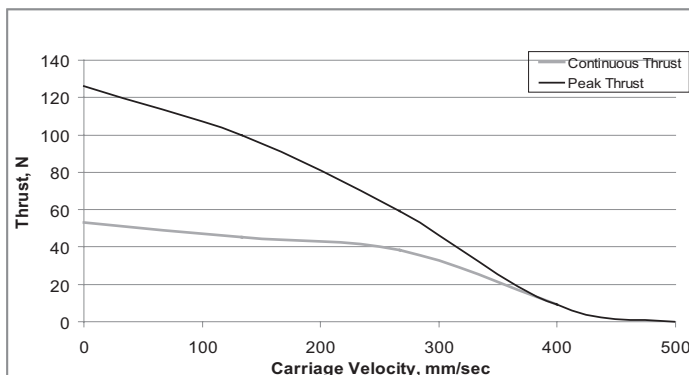
*45 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

HLD60 Twin Rails - SM23165D @ 42V, 10mm/rev



*45 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

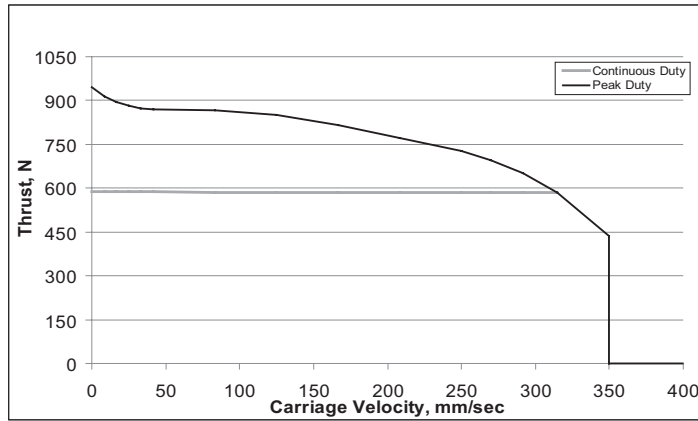
HLD60 Twin Rails - SM23165D @ 24V, 10mm/rev



*45 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see page 84-105 for lifetime information.

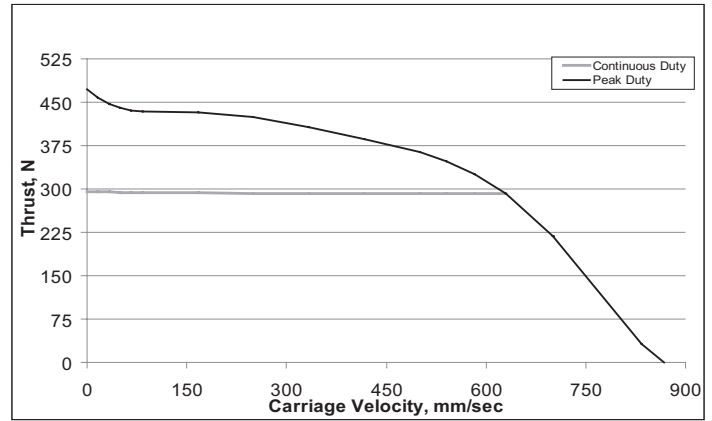
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L70/XL100 - SM23165DT @ 48V, 5mm/rev lead ball screw



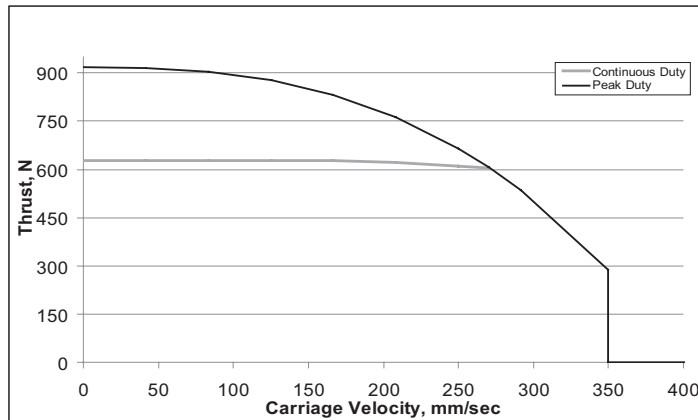
*200 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

L70/XL100 - SM23165DT @ 48V, 10mm/rev lead ball screw



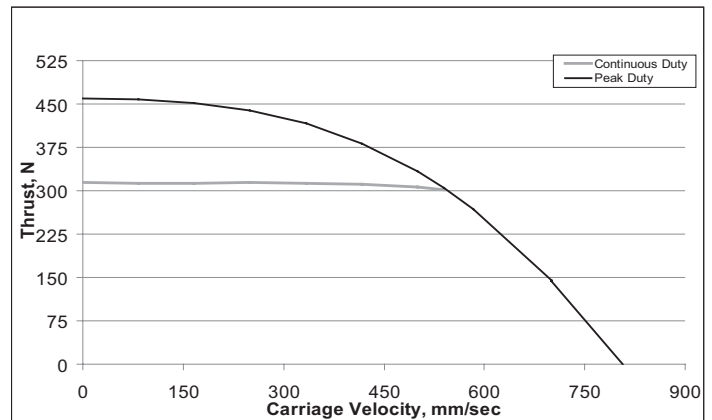
*200 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

L70/XL100 - SM23165DT @ 42V, 5mm/rev lead ball screw



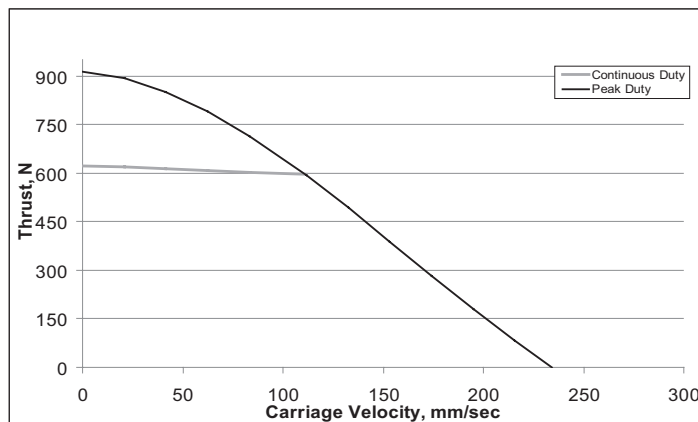
*200 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

L70/XL100 - SM23165DT @ 42V, 10mm/rev lead ball screw



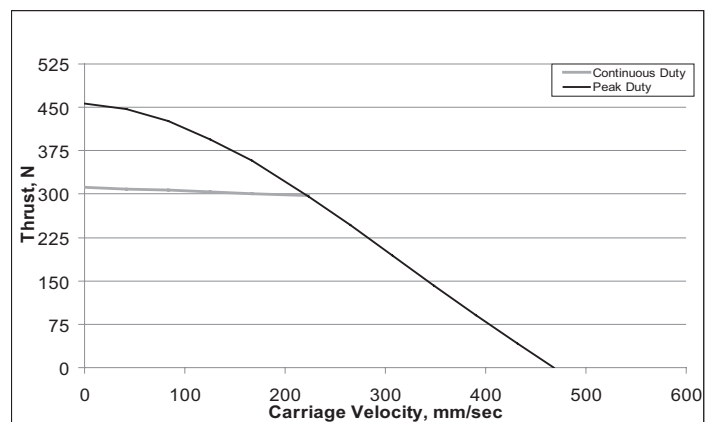
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L70/XL100 - SM23165DT @ 24V, 5mm/rev lead ball screw



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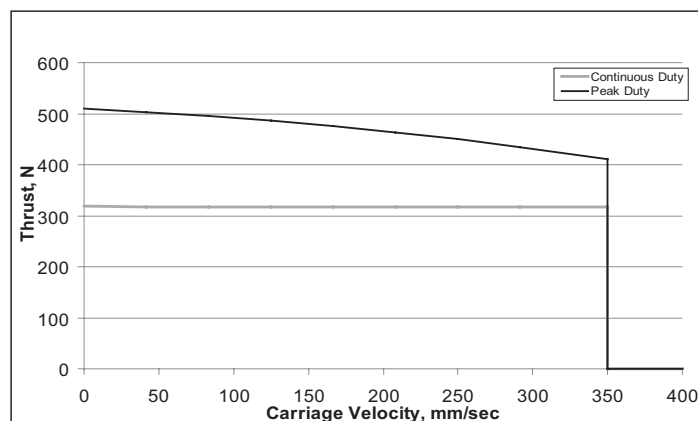
L70/XL100 - SM23165DT @ 24V, 10mm/rev lead ball screw



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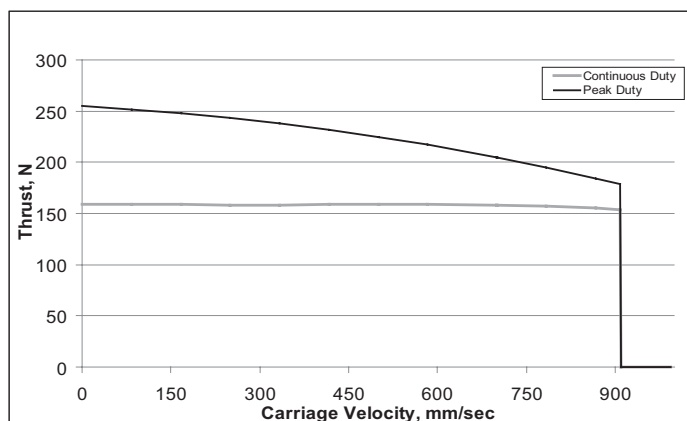
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L70/XL100 - SM23165D @ 48V, 5mm/rev lead ball screw



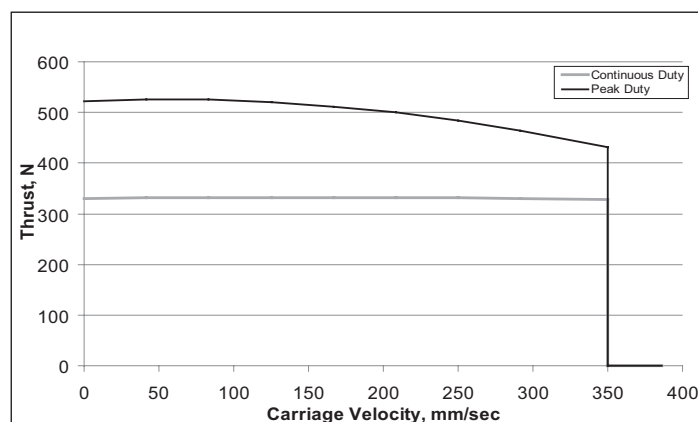
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L70/XL100 - SM23165D @ 48V, 10mm/rev lead ball screw



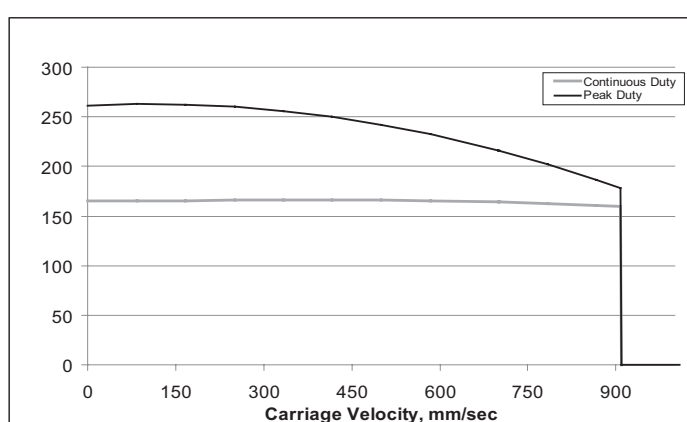
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L70/XL100 - SM23165D @ 42V, 5mm/rev lead ball screw



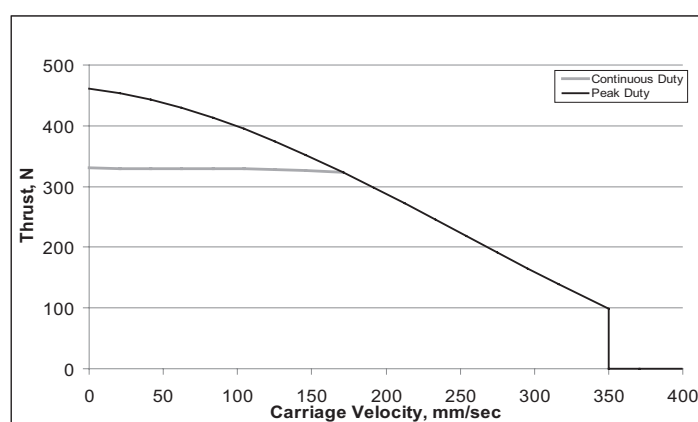
*200 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

L70/XL100 - SM23165D @ 42V, 10mm/rev lead ball screw



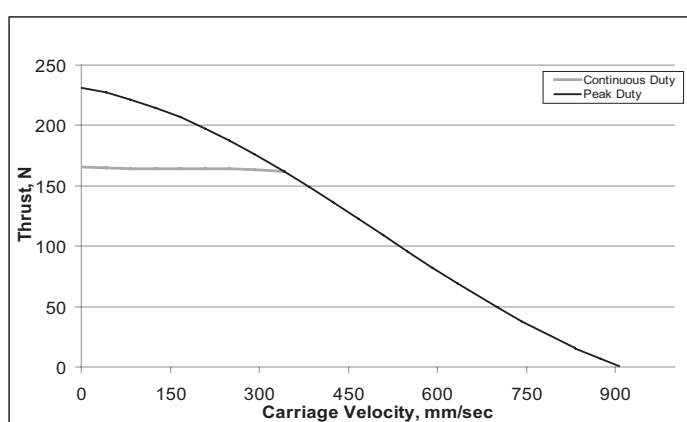
*200 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

L70/XL100 - SM23165D @ 24V, 5mm/rev lead ball screw



*200 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

L70/XL100 - SM23165D @ 24V, 10mm/rev lead ball screw



*200 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits. **Please see pages 84-105 for lifetime information.

NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

OVERVIEW

MOTOR SPECIFICATIONS

LINEAR SYSTEMS

CONNECTIVITY

PERIPHERALS

IP 65 MODELS & CONNECTIVITY

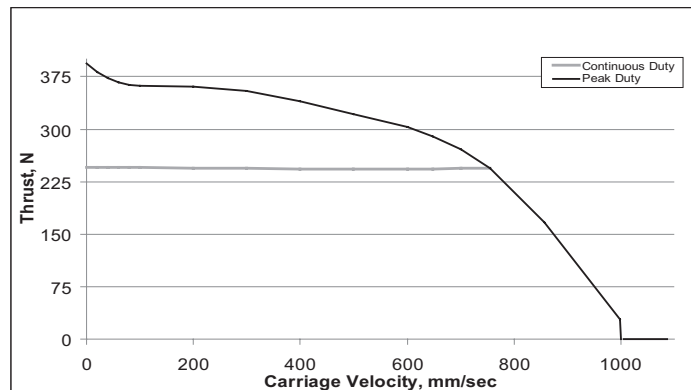
POWER SUPPLIES & SHUNTS

GEAR HEADS

SOFTWARE

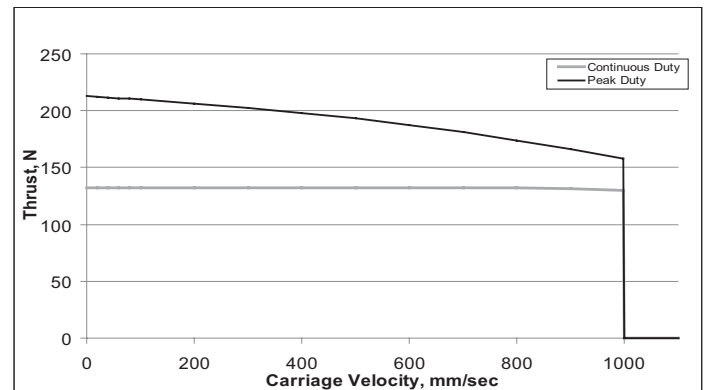
APPENDIX

VL-CT series - SM23165DT @ 48V, Direct Drive & 1:1 Pulley Offset



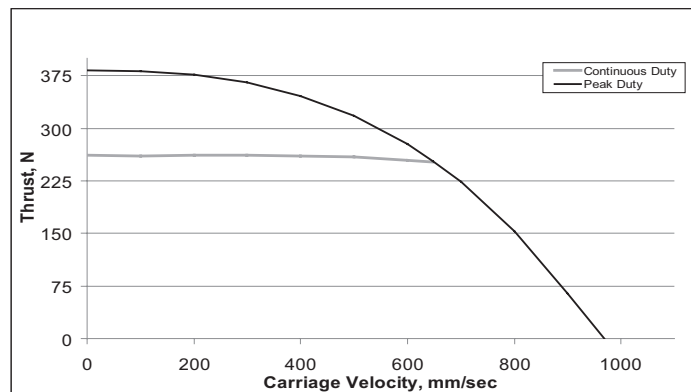
*220 N (VL-CT55) or 55 N (VL-CT35/45) Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits

VL-CT series - SM23165D @ 48V, Direct Drive & 1:1 Pulley Offset



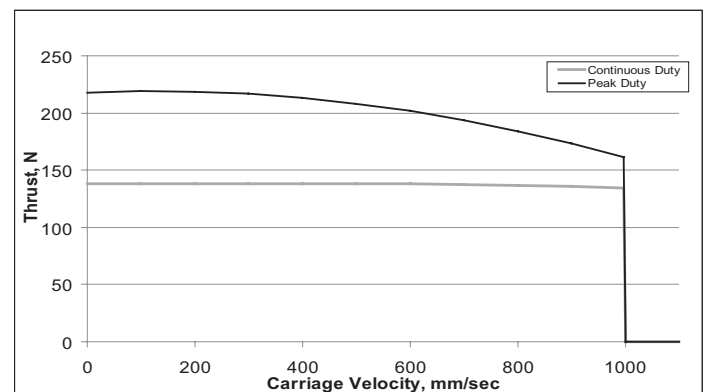
*132 N (VL-CT55) or 55 N (VL-CT35/45) Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits

VL-CT series - SM23165DT @ 42V, Direct Drive & 1:1 Pulley Offset



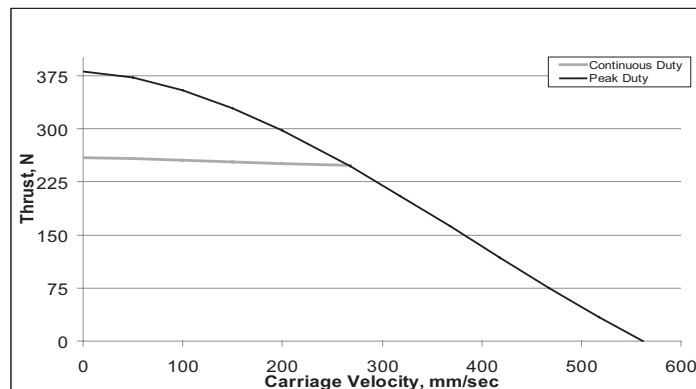
*220 N (VL-CT55) or 55 N (VL-CT35/45) Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits

VL-CT series - SM23165D @ 42V, Direct Drive & 1:1 Pulley Offset



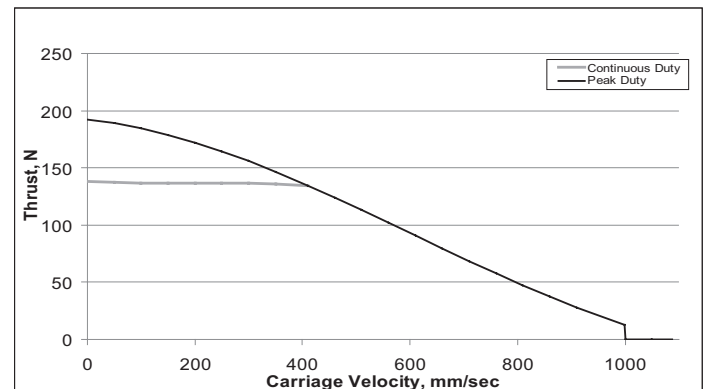
*132 N (VL-CT55) or 55 N (VL-CT35/45) Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits

VL-CT series - SM23165DT @ 24V, Direct Drive & 1:1 Pulley Offset



*220 N (VL-CT55) or 55 N (VL-CT35/45) Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits

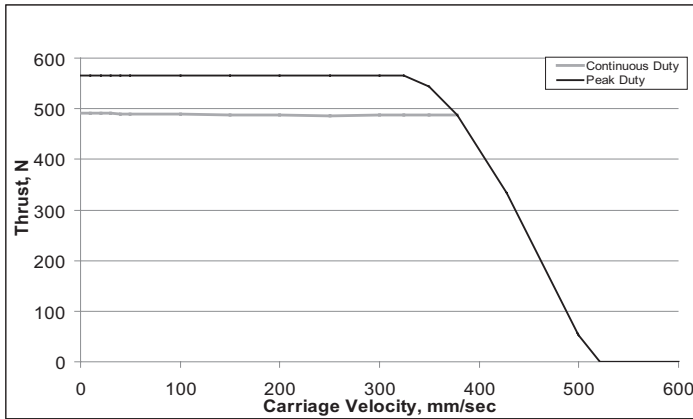
VL-CT series - SM23165D @ 24V, Direct Drive & 1:1 Pulley Offset



*132 N (VL-CT55) or 55 N (VL-CT35/45) Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits

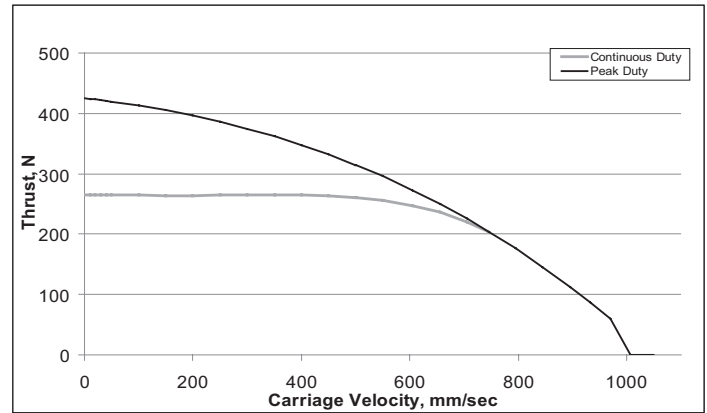
NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

VL-CT35/45 - SM23165DT @ 48V, 2:1 pulley offset



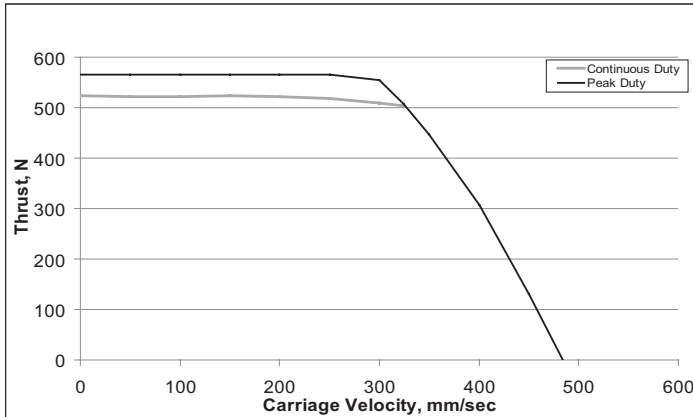
**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

VL-CT series - SM23165D @ 48V, 2:1 pulley offset



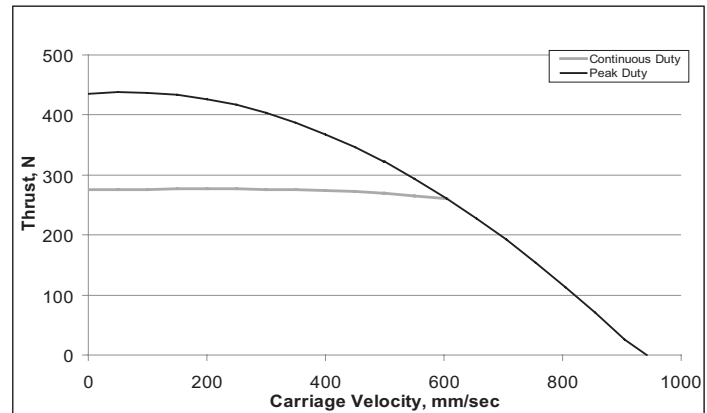
**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

VL-CT35/45 - SM23165DT @ 42V, 2:1 pulley offset



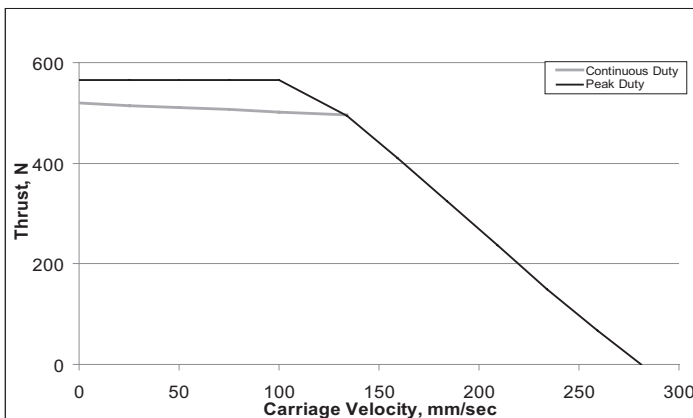
**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

VL-CT series - SM23165D @ 42V, 2:1 pulley offset



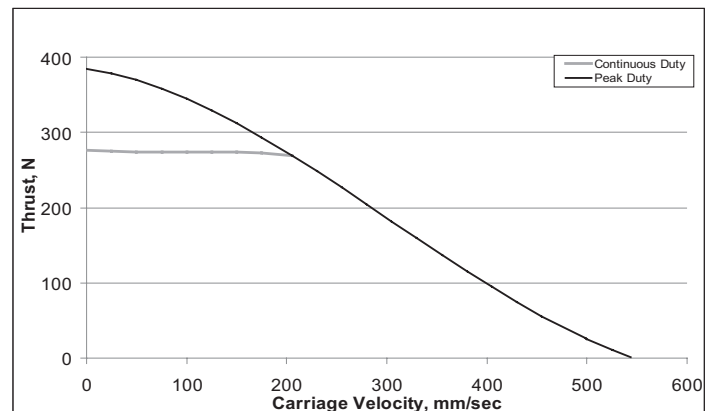
**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

VL-CT35/45 - SM23165DT @ 24V, 2:1 pulley offset



**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

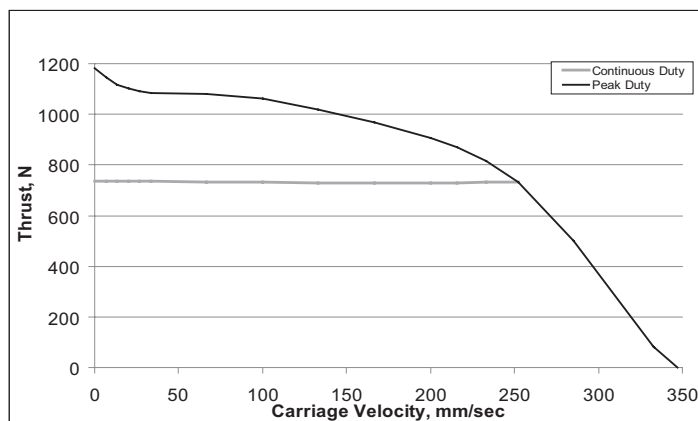
VL-CT series - SM23165D @ 24V, 2:1 pulley offset



**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

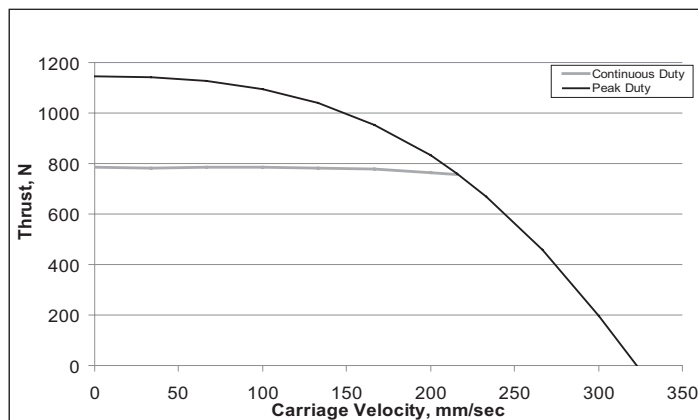
VL-CT55 - SM2316DT @ 48V, 3:1 pulley offset



*15,000 hours of lifetime if operating at an average speed of 200 mm/s at or below a 28 kg load.

**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

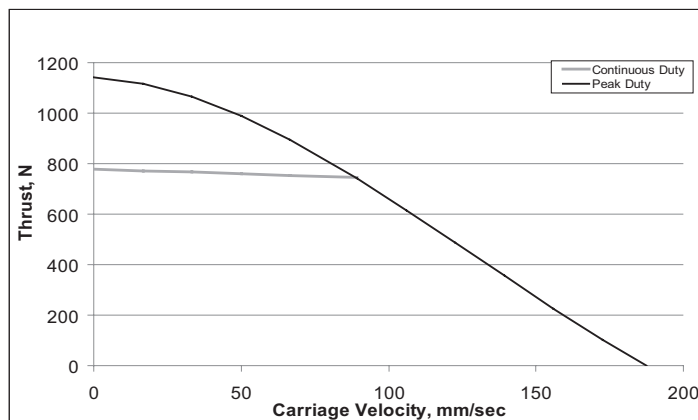
VL-CT55 - SM2316DT @ 42V, 3:1 pulley offset



*15,000 hours of lifetime if operating at an average speed of 200 mm/s at or below a 28 kg load.

**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

VL-CT55 - SM2316DT @ 24V, 3:1 pulley offset

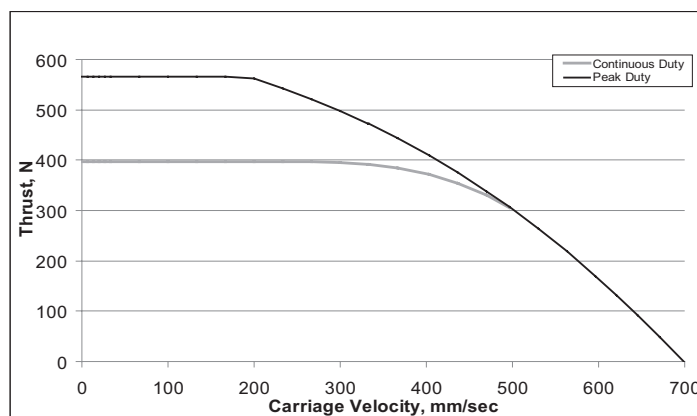


*15,000 hours of lifetime if operating at an average speed of 100 mm/s at or below a 35 kg load.

**Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

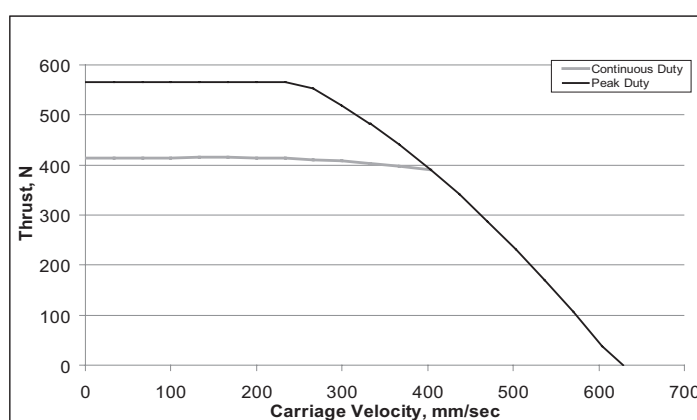
NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

VL-CT35/45 - SM2316D @ 48V, 3:1 pulley offset



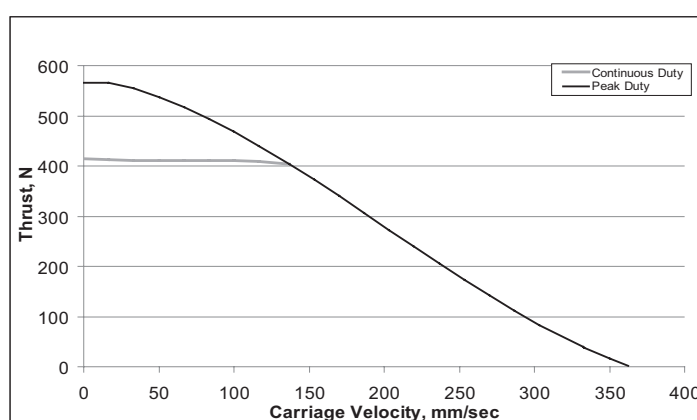
*Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

VL-CT35/45 - SM2316D @ 42V, 3:1 pulley offset



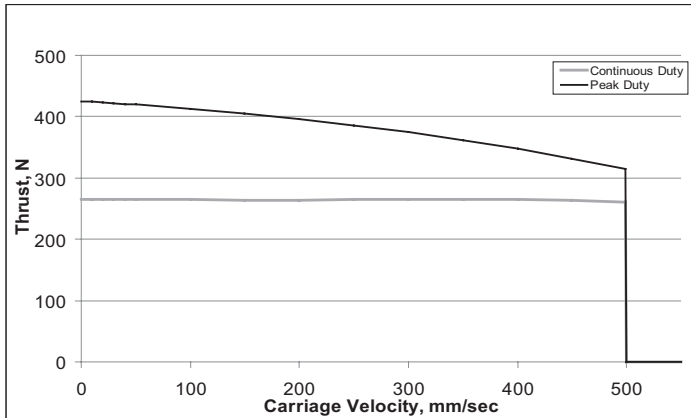
*Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

VL-CT35/45 - SM2316D @ 24V, 3:1 pulley offset



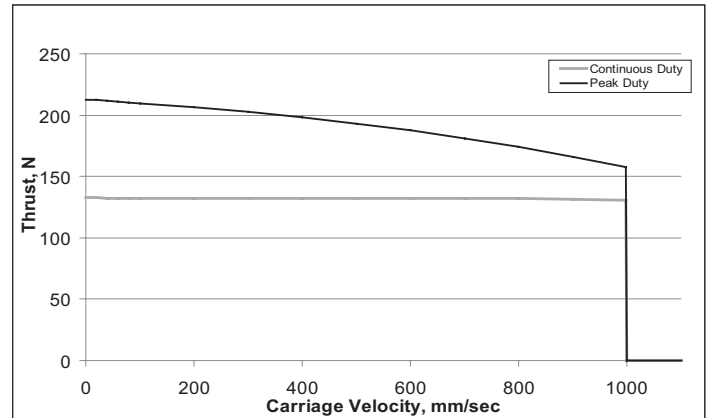
*Please see pages 84-105 for lifetime, moment loading and ball screw critical speed limitations for the VL Series actuators.

VL-ST45 - SM23165D @ 48V, 6mm/rev lead ball screw



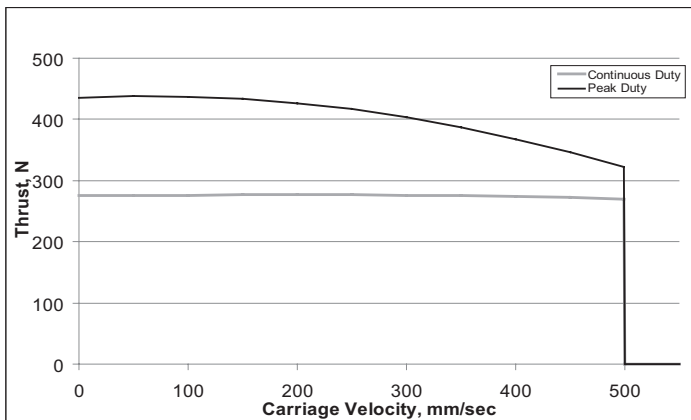
*80 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST45 - SM23165D @ 48V, 12mm/rev lead ball screw



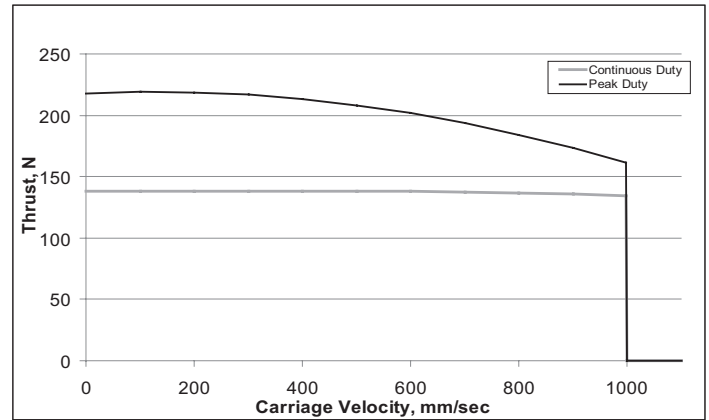
*65 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST45 - SM23165D @ 42V, 6mm/rev lead ball screw



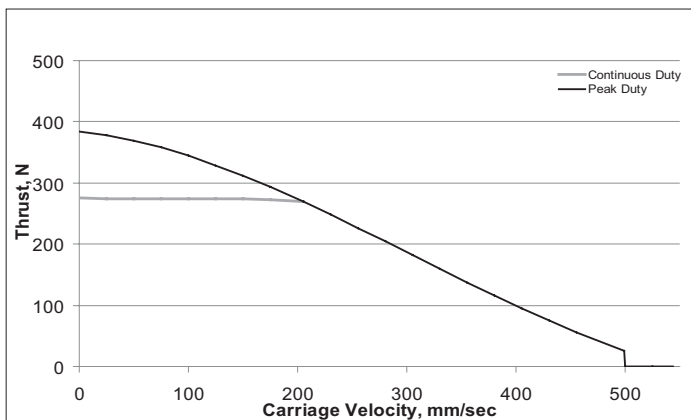
*80 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST45 - SM23165D @ 42V, 12mm/rev lead ball screw



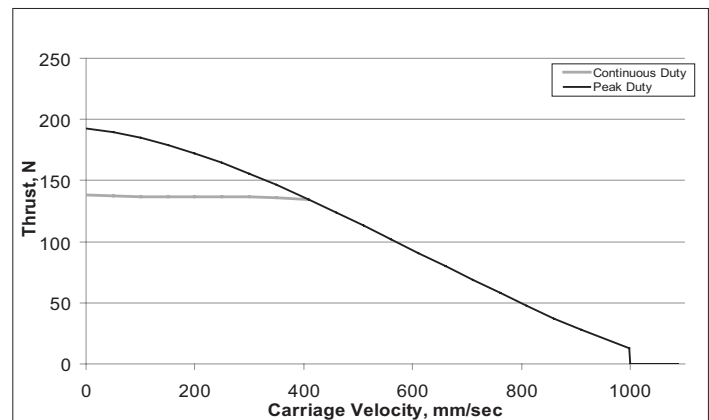
*65 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST45 - SM23165D @ 24V, 6mm/rev lead ball screw



*80 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

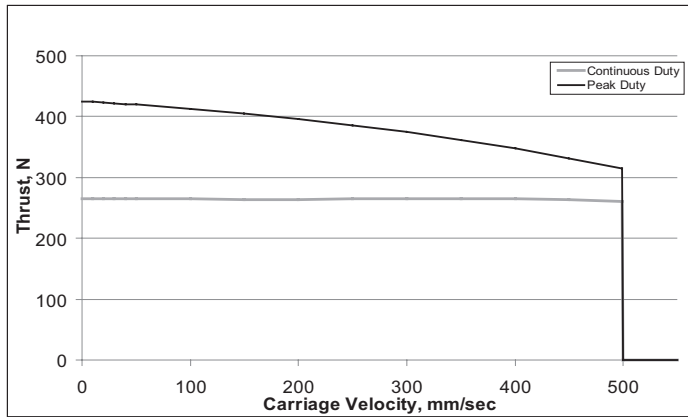
VL-ST45 - SM23165D @ 24V, 12mm/rev lead ball screw



*65 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

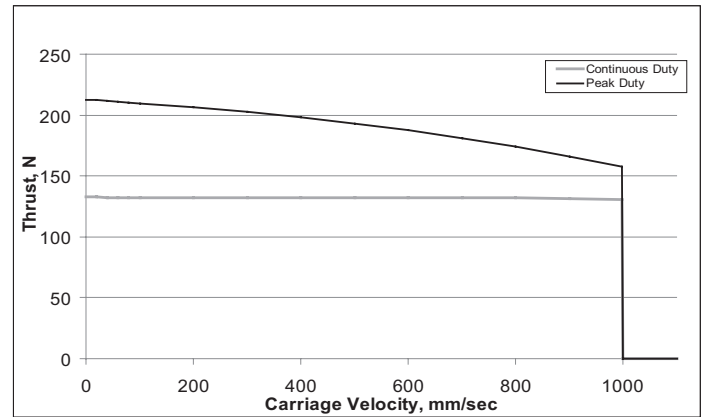
NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

VL-ST45 - SM23165D @ 48V, 6mm/rev lead ball screw



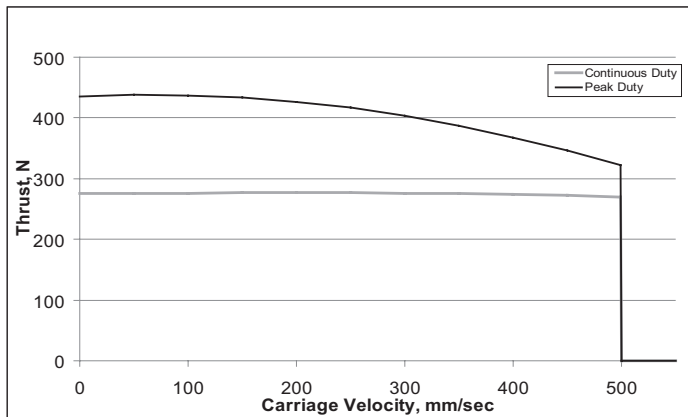
*80 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST45 - SM23165D @ 48V, 12mm/rev lead ball screw



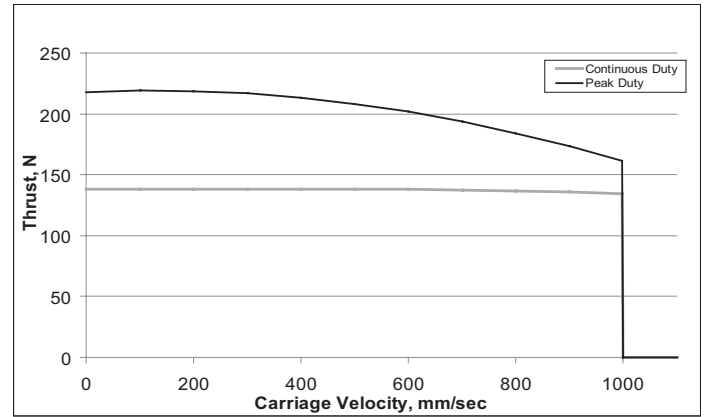
*65 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST45 - SM23165D @ 42V, 6mm/rev lead ball screw



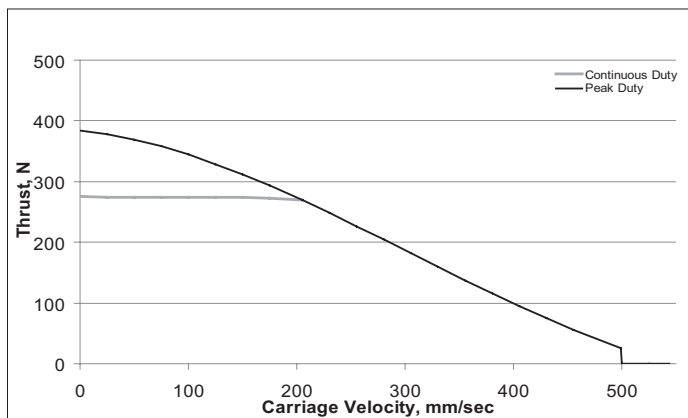
*80 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST45 - SM23165D @ 42V, 12mm/rev lead ball screw



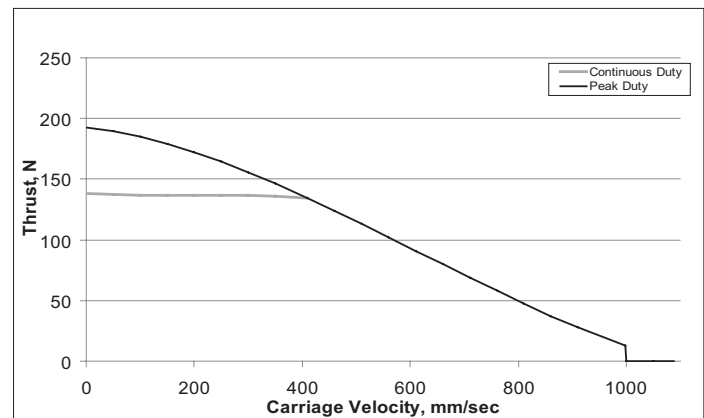
*65 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST45 - SM23165D @ 24V, 6mm/rev lead ball screw



*80 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

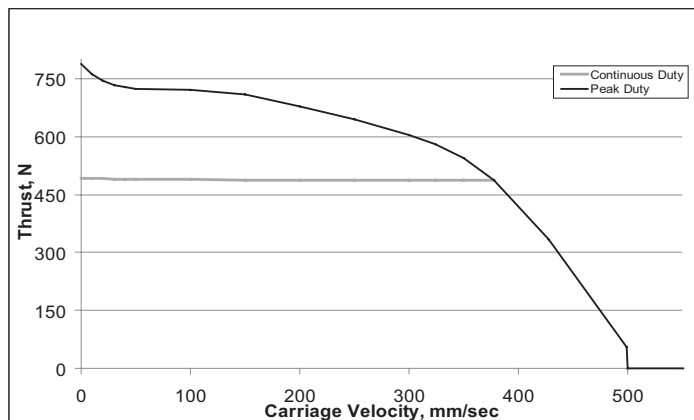
VL-ST45 - SM23165D @ 24V, 12mm/rev lead ball screw



*65 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

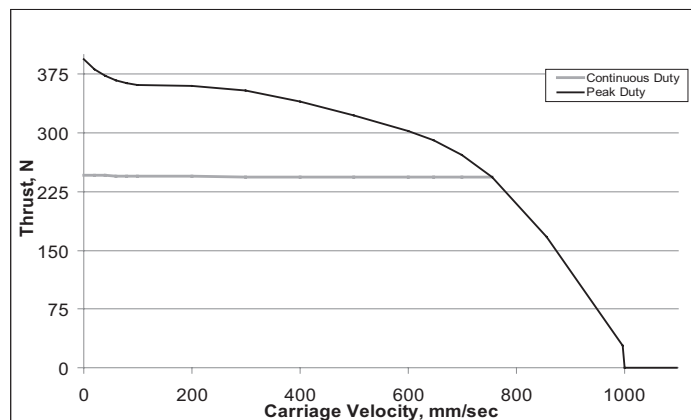
NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

VL-ST60 - SM23165DT @ 48V, 6mm/rev lead ball screw



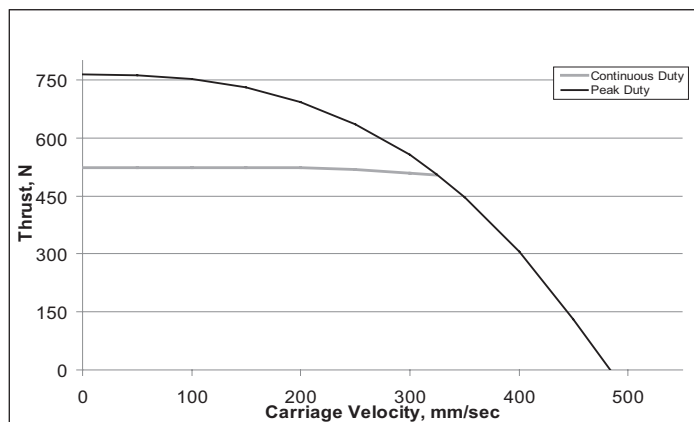
*130 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST60 - SM23165DT @ 48V, 12mm/rev lead ball screw



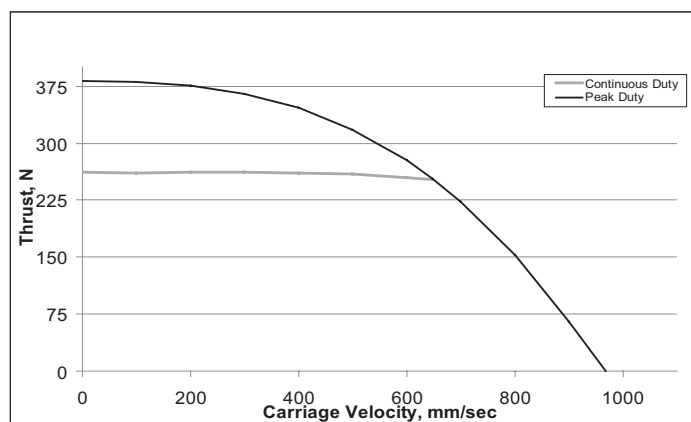
*100 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST60 - SM23165DT @ 42V, 6mm/rev lead ball screw



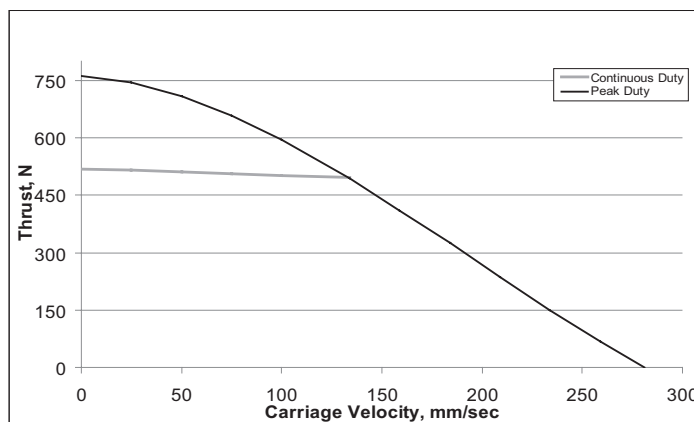
*130 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST60 - SM23165DT @ 42V, 12mm/rev lead ball screw



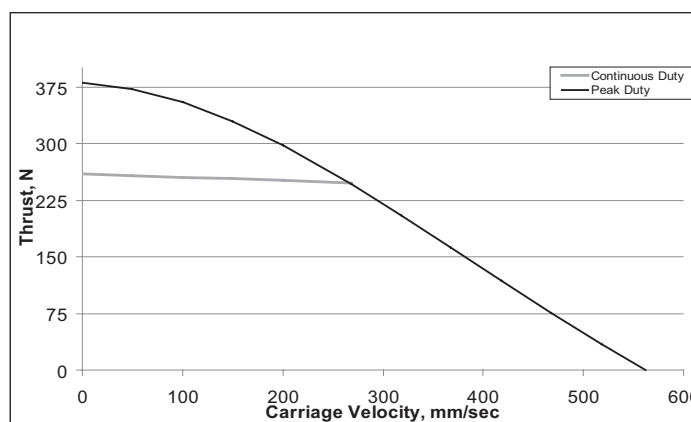
*100 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST60 - SM23165DT @ 24V, 6mm/rev lead ball screw



*130 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

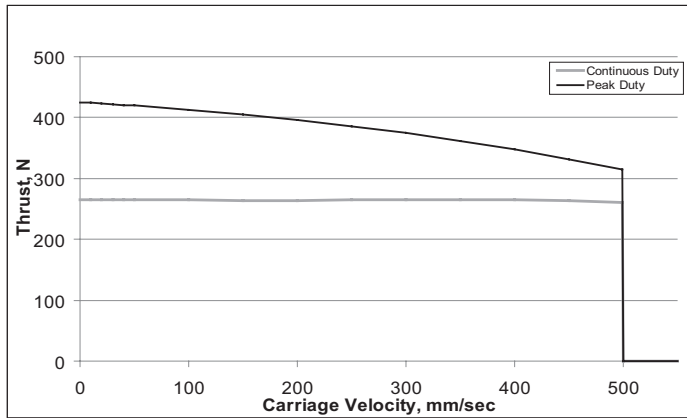
VL-ST60 - SM23165DT @ 24V, 12mm/rev lead ball screw



*100 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

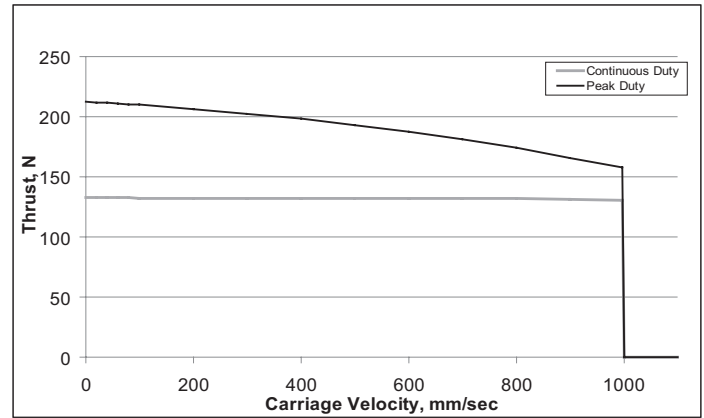
NOTE: Motor and Actuator specifications are subject to changes without notice. Consult Website and factory for latest data.

VL-ST60 - SM23165D @ 48V, 6mm/rev lead ball screw



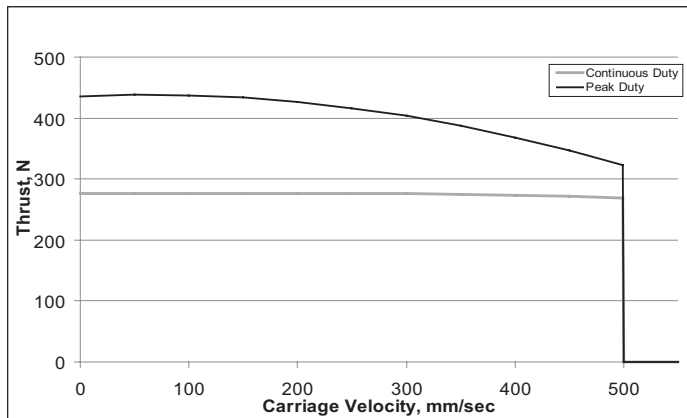
*130 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST60 - SM23165D @ 48V, 12mm/rev lead ball screw



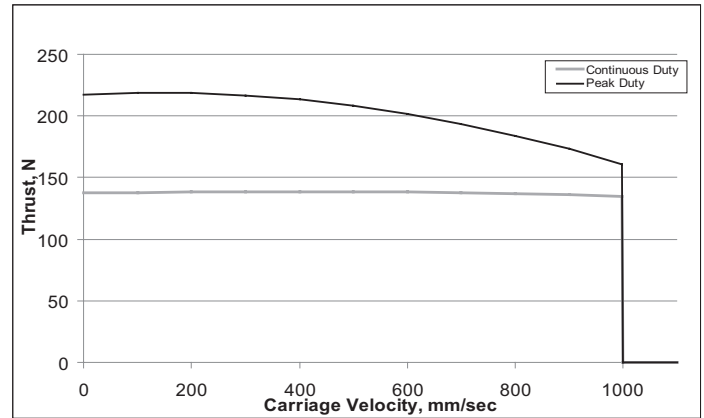
*100 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST60 - SM23165D @ 42V, 6mm/rev lead ball screw



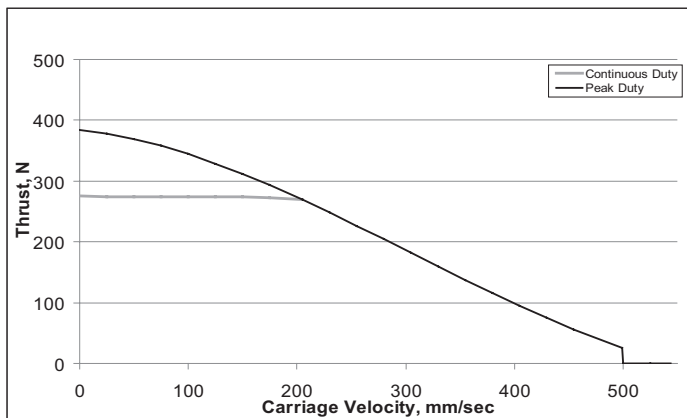
*130 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST60 - SM23165D @ 42V, 12mm/rev lead ball screw



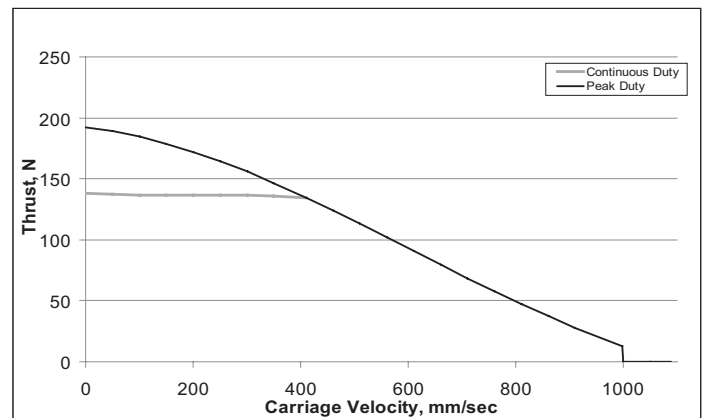
*100 N Dynamic Thrust Limit for Basic Service Life when operated at critical speed limits within average speed requirements stated on pages 84-105.

VL-ST60 - SM23165D @ 24V, 6mm/rev lead ball screw



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