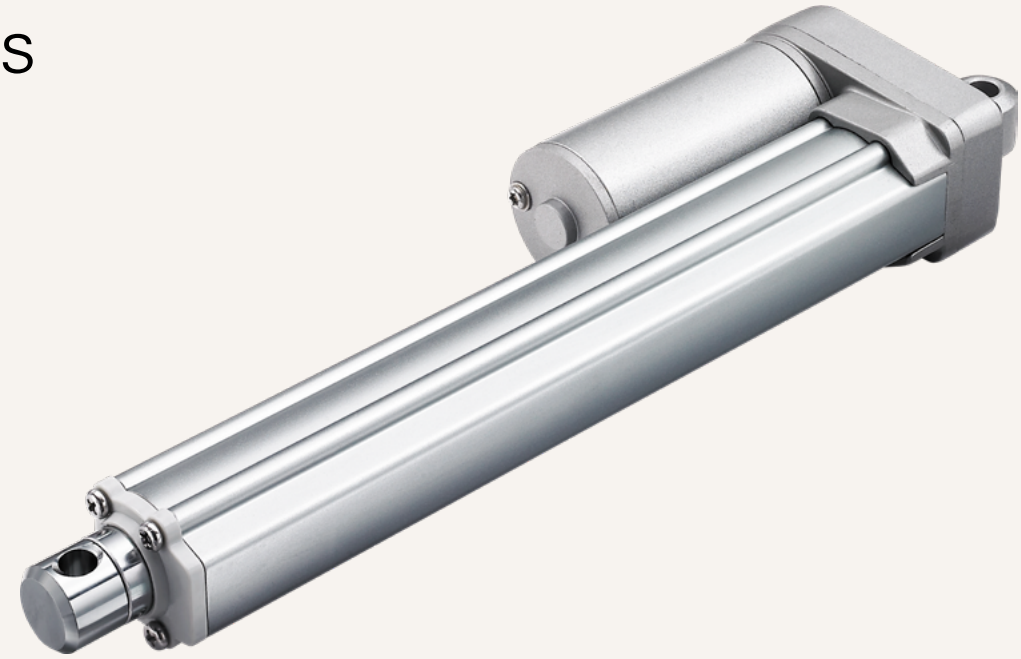
TA2

series



Product Segments

- **Industrial Motion**

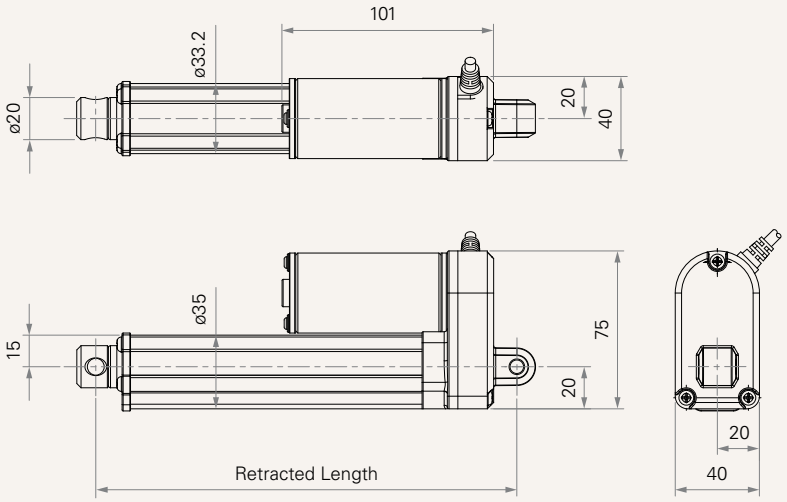
TiMOTION's TA2 series linear actuator is compact, robust and capable of performing well in certain outdoor environments. This linear actuator is perfect for use in small spaces where force or capability cannot be sacrificed. Options include feedback sensors, signal sending limit switches and 90 degree clevis mounting.

General Features

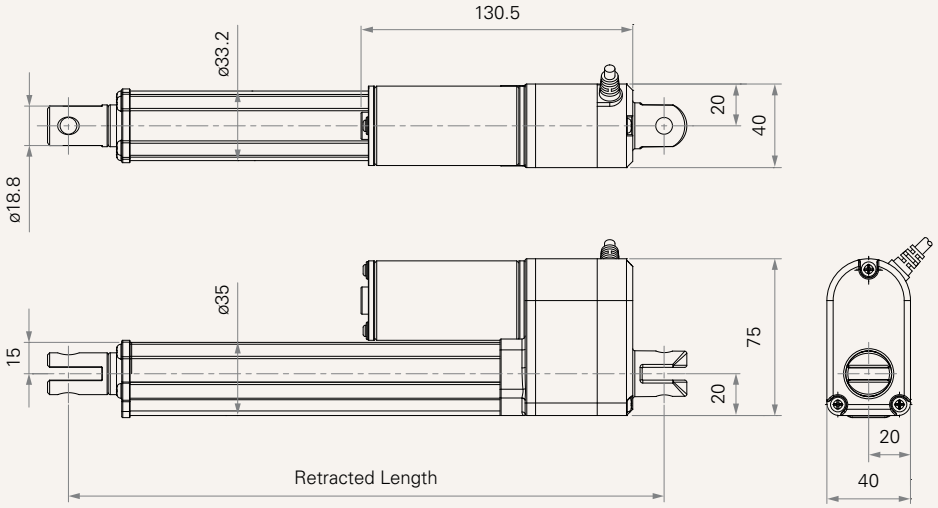
Max. load	1,000N (push/pull)
Max. speed at max. load	7.6mm/s
Max. speed at no load	67.5mm/s
Retracted length	≥ Stroke + 105mm (without output signals)
IP rating	IP66M (dynamic)
Certificate	EMC
Stroke	20~1000mm
Output signals	Mechanical pot., NPN Hall sensor (5~36V) * 2, Outer Adjustable Reed switch
Voltage	12/24/36/48V DC; 12/24/36/48V DC (PTC)
Color	Silver
Operational temperature range	+5˚C~+45˚C (Load < 500N); -25˚C~+65˚C (Load ≥ 500N)
Operational temperature range at full performance	+5°C~+45°C

Drawing

Dimensions without
Output Signals
(mm)



Dimensions with
Output Signals
(mm)



Load and Speed

CODE	Load (N)		Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)		Typical Current (A)		Typical Speed (mm/s)	
	Push	Pull		No Load 12V DC	With Load 12V DC	No Load 12V DC	With Load 12V DC	No Load 24V DC	With Load 24V DC	No Load 24V DC	With Load 24V DC
Motor Speed (4200RPM, Duty Cycle 25%)											
A	120	120	120	1.2	1.8	44.0	33.0	0.8	0.9	44.0	33.0
B	240	240	240	1.1	1.8	22.0	15.5	0.7	0.9	22.0	16.5
C	500	500	500	1.0	1.7	11.0	8.5	0.6	0.8	11.0	8.5
D	750	750	750	1.0	1.7	7.5	6.0	0.6	0.8	7.5	6.2
E	1000	1000	1000	1.0	1.7	5.6	4.4	0.6	0.8	5.6	4.6
Motor Speed (6000RPM, Duty Cycle 25%)											
F	120	120	120	1.3	3.2	66.0	50.0	1.0	1.6	67.5	51.0
G	240	240	240	1.2	3.0	33.5	26.5	0.9	1.5	33.5	26.5
H	500	500	500	1.1	3.0	17.0	13.0	0.8	1.3	17.0	14.0
K	750	750	750	1.1	2.7	11.5	9.2	0.8	1.3	11.0	10.0
L	1000	1000	1000	1.1	2.7	9.0	6.8	0.8	1.3	9.0	7.6

Load and Speed

CODE	Load (N)		Self Locking Force (N)	Typical Current (A)		Typical Speed (mm/s)		Typical Current (A)		Typical Speed (mm/s)	
	Push	Pull		No Load 36V DC	With Load 36V DC	No Load 36V DC	With Load 36V DC	No Load 48V DC	With Load 48V DC	No Load 48V DC	With Load 48V DC
Motor Speed (4200RPM, Duty Cycle 25%)											
A	120	120	120	0.4	0.6	44.0	33.0	0.3	0.5	44.0	33.0
B	240	240	240	0.4	0.6	22.0	16.5	0.3	0.5	22.0	16.5
C	500	500	500	0.4	0.6	11.0	8.5	0.3	0.4	11.0	8.5
D	750	750	750	0.4	0.6	7.5	6.2	0.3	0.4	7.5	6.2
E	1000	1000	1000	0.4	0.6	5.6	4.6	0.3	0.4	5.6	4.6
Motor Speed (6000RPM, Duty Cycle 25%)											
F	120	120	120	120	0.5	1.1	67.5	0.3	0.8	67.5	51.0
G	240	240	240	240	0.4	1.0	33.5	0.3	0.8	33.5	26.5
H	500	500	500	500	0.4	0.9	17.0	0.3	0.7	17.0	14.0
K	750	750	750	750	0.4	0.9	11.0	0.3	0.7	11.0	10.0
L	1000	1000	1000	1000	0.4	0.9	9.0	0.3	0.7	9.0	7.6

Note

1 Please refer to the approved drawing for the final authentic value.

2 This self-locking force level is reached only when a short circuit is applied on the terminals of the motor. All the TiMOTION control boxes have this feature built-in. The self-locking force is a minimum value and can be actually higher.

3 Voltage range: 24V±10%, 12V±20%, 36V±10%, 48V±10%.

4 The current & speed in table is tested when the actuator is extending under push load.

5 Without load, noise level ≤ 74dBA (by TiMOTION test standard, ambient noise level ≤ 36dBA).

6 Tolerance: fully extended length & retracted length ± 2mm.

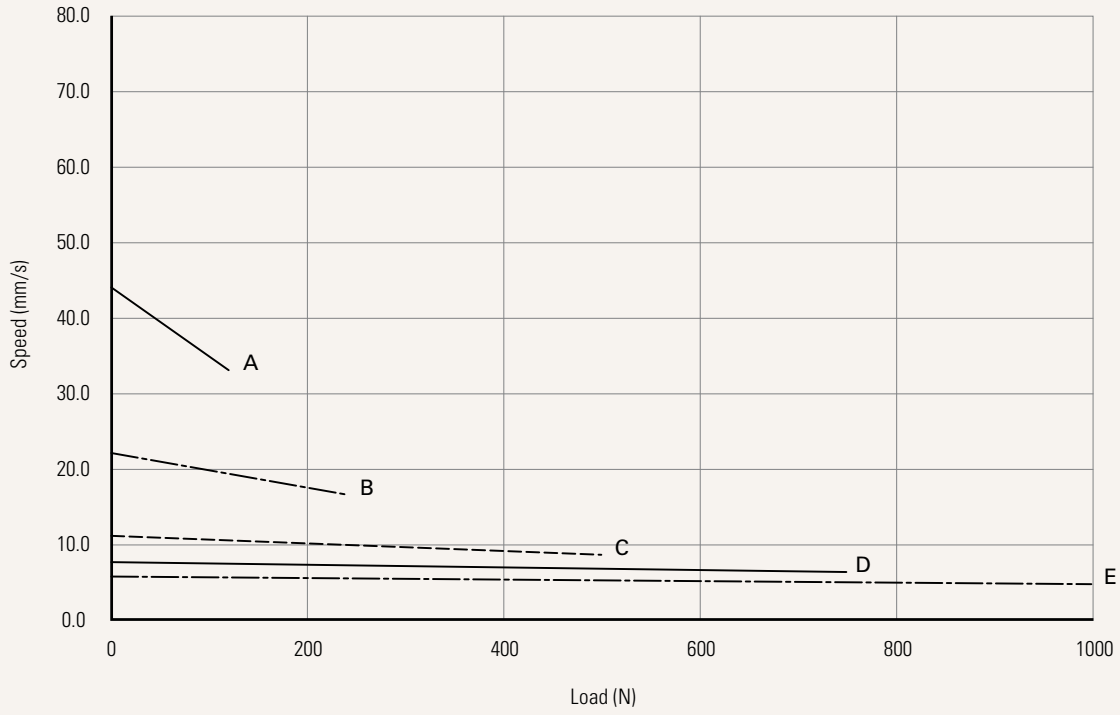
7 Standard stroke: Min. ≥ 20 mm, Max. please refer to the table below. When choosing "Two micro switches cut off the actuator at EOS", A, B, F, G options, reserve space for equipotential braking is needed, the minimum value is ≥ 40mm, if minimum stroke < 40mm , a customized thrust bearing is required.

CODE	Load (N)	Min. Stroke (mm)		Max. Stroke (mm)
		Function of Limit Switches		
		#1, #2	#3, #4	
A, B, F, G	≤ 250	40	20	1000
C, D, H, K	≤ 750	20	20	800
E, L	≤ 1000	20	20	600

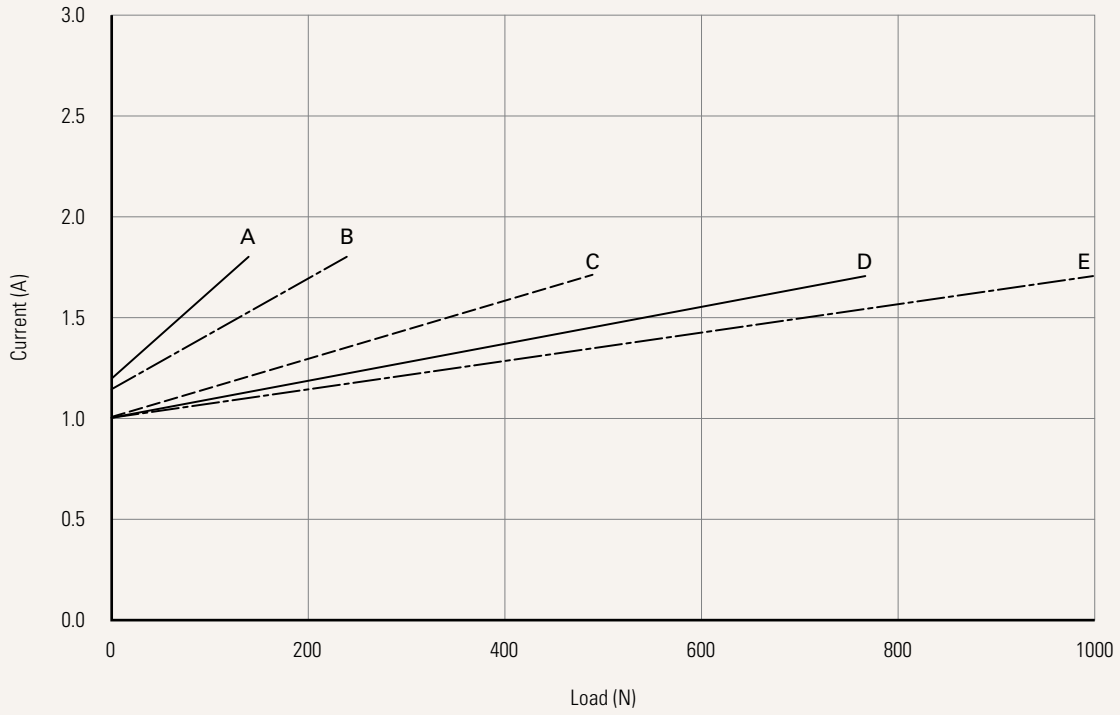
Performance Data (12V DC)

Motor Speed (4200RPM, duty cycle 25%)

Speed vs. Load



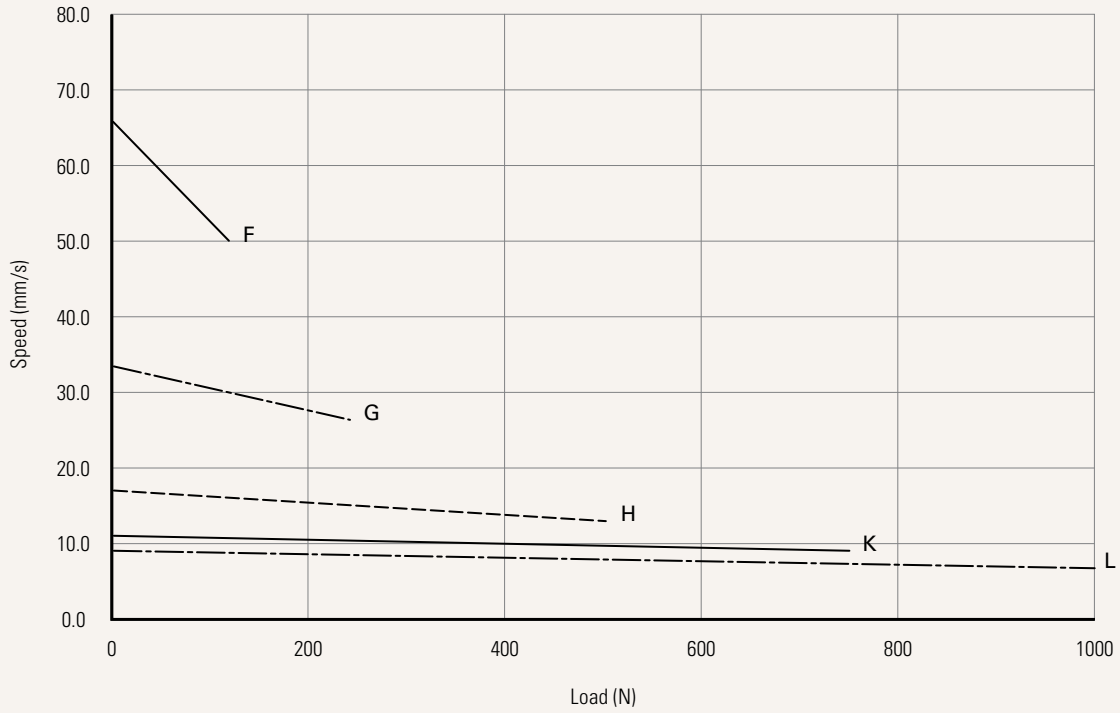
Current vs. Load



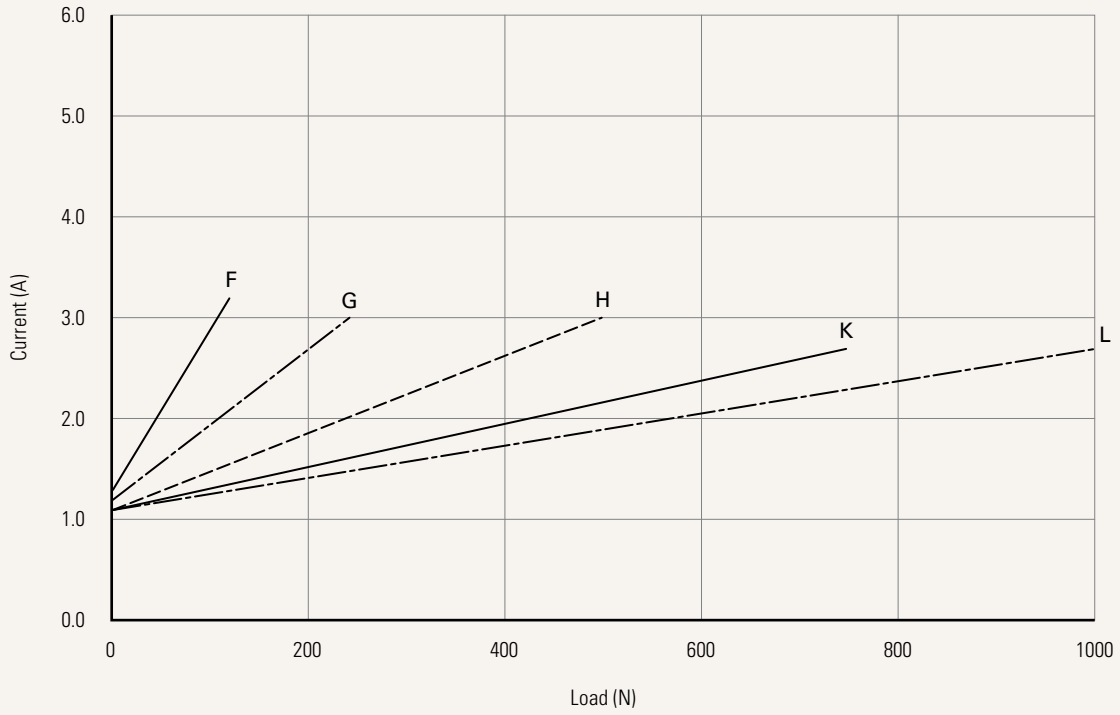
Performance Data (12V DC)

Motor Speed (6000RPM, duty cycle 25%)

Speed vs. Load



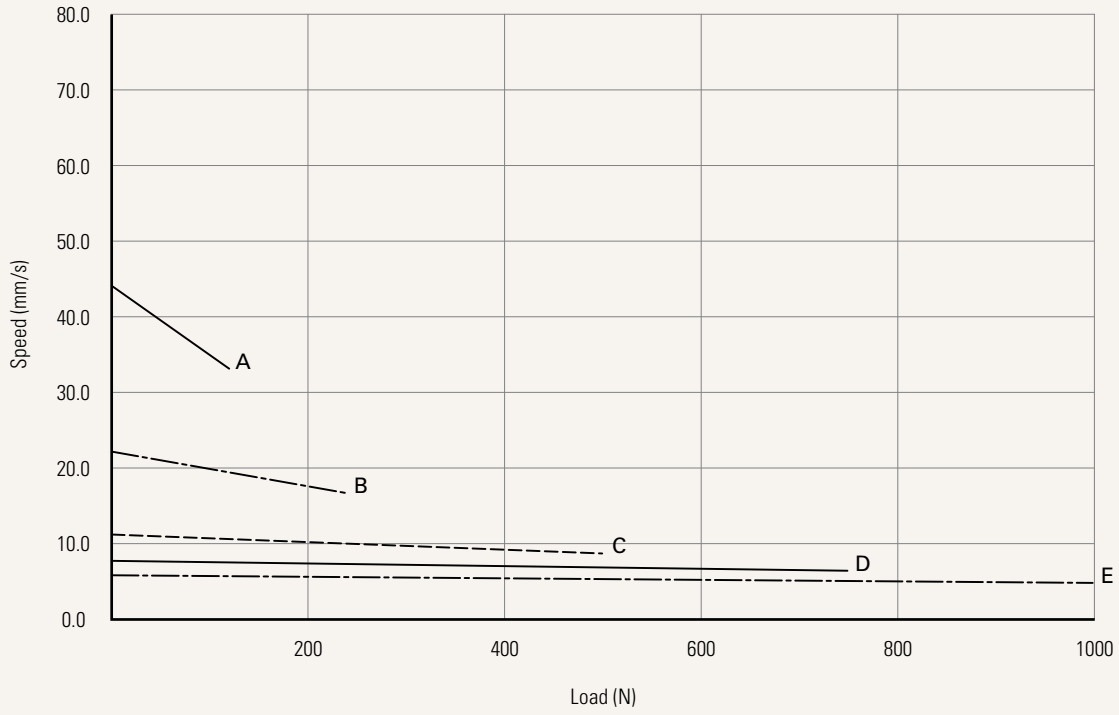
Current vs. Load



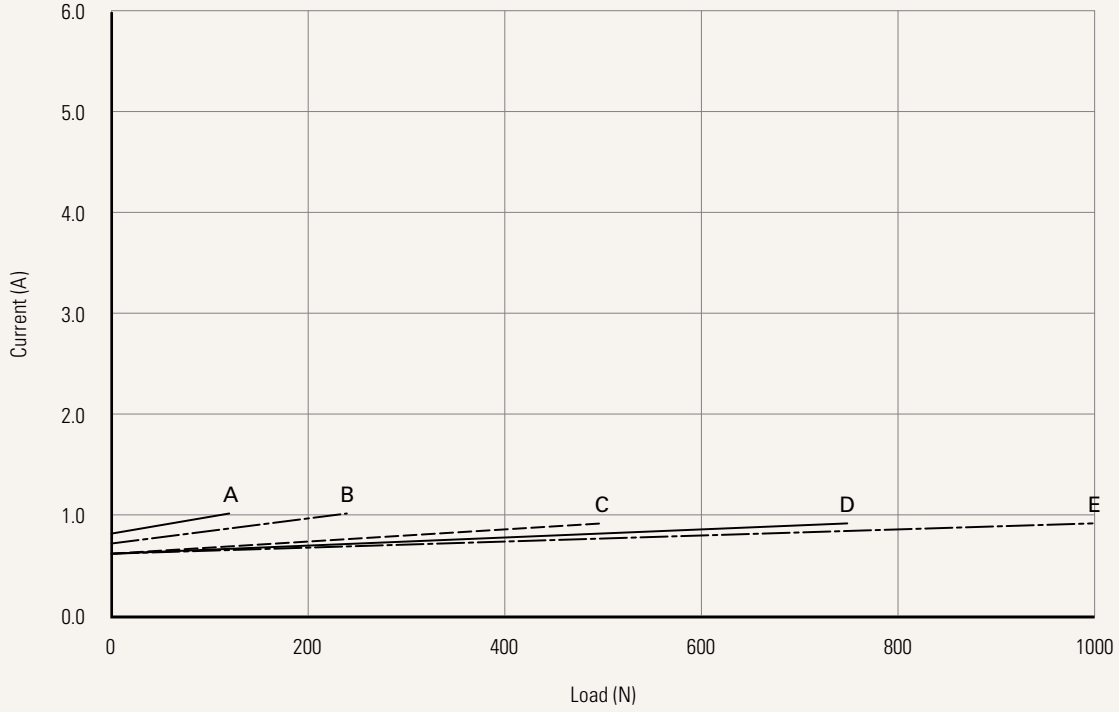
Performance Data (24V DC)

Motor Speed (4200RPM, duty cycle 25%)

Speed vs. Load



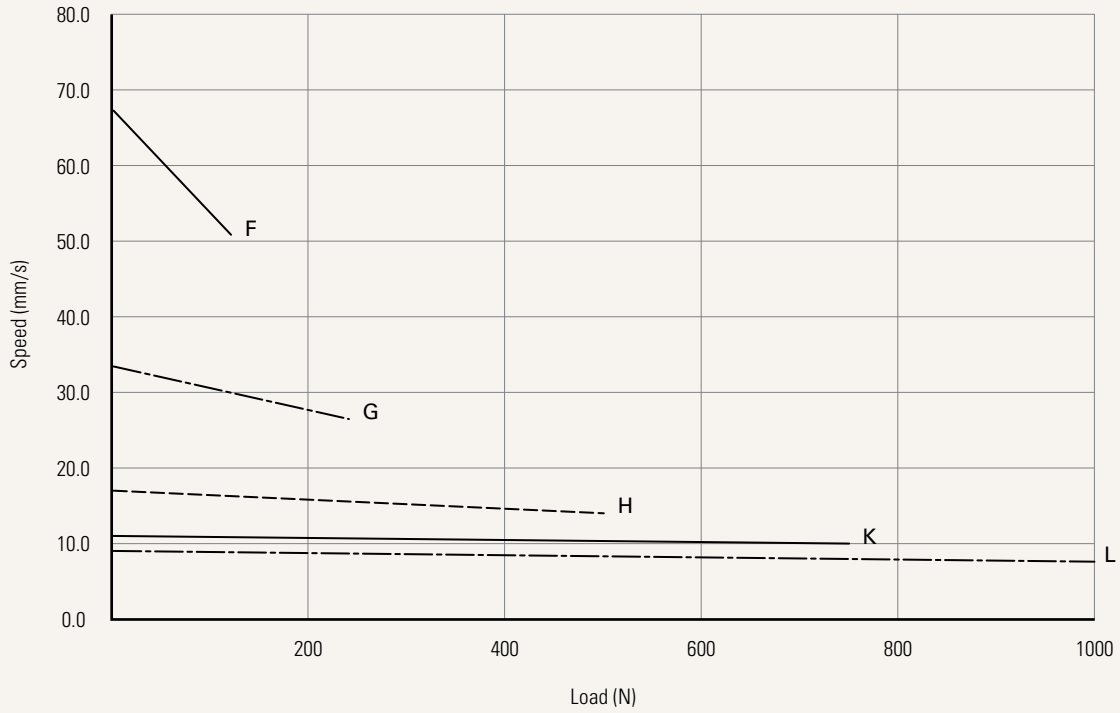
Current vs. Load



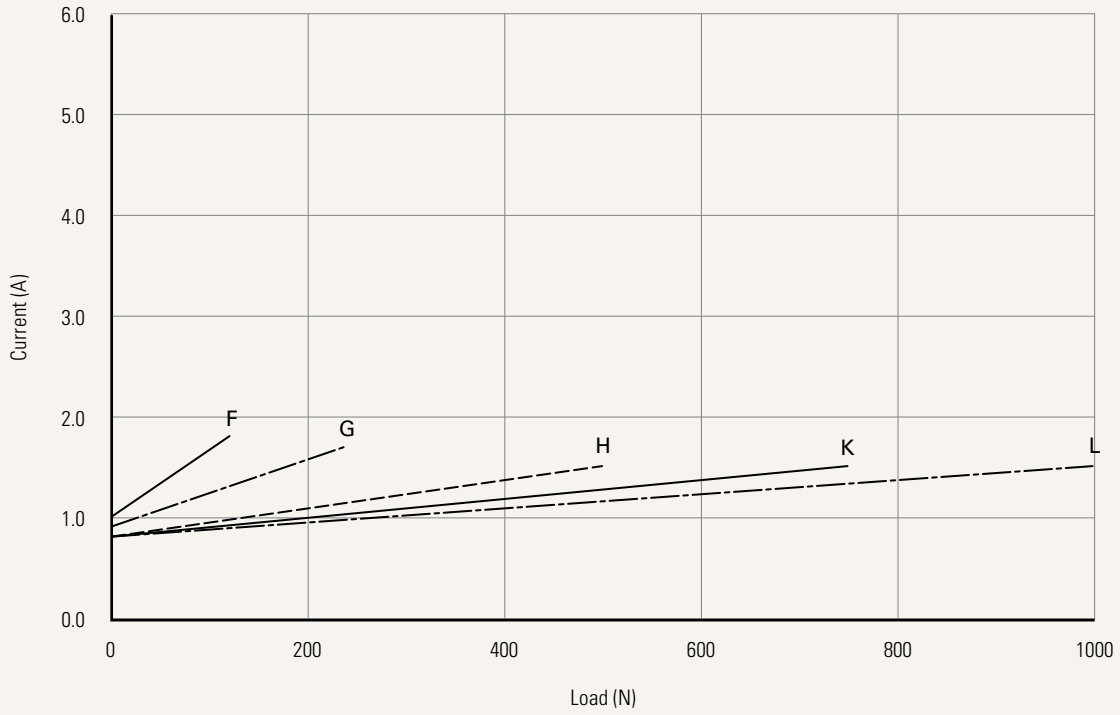
Performance Data (24V DC)

Motor Speed (6000RPM, duty cycle 25%)

Speed vs. Load



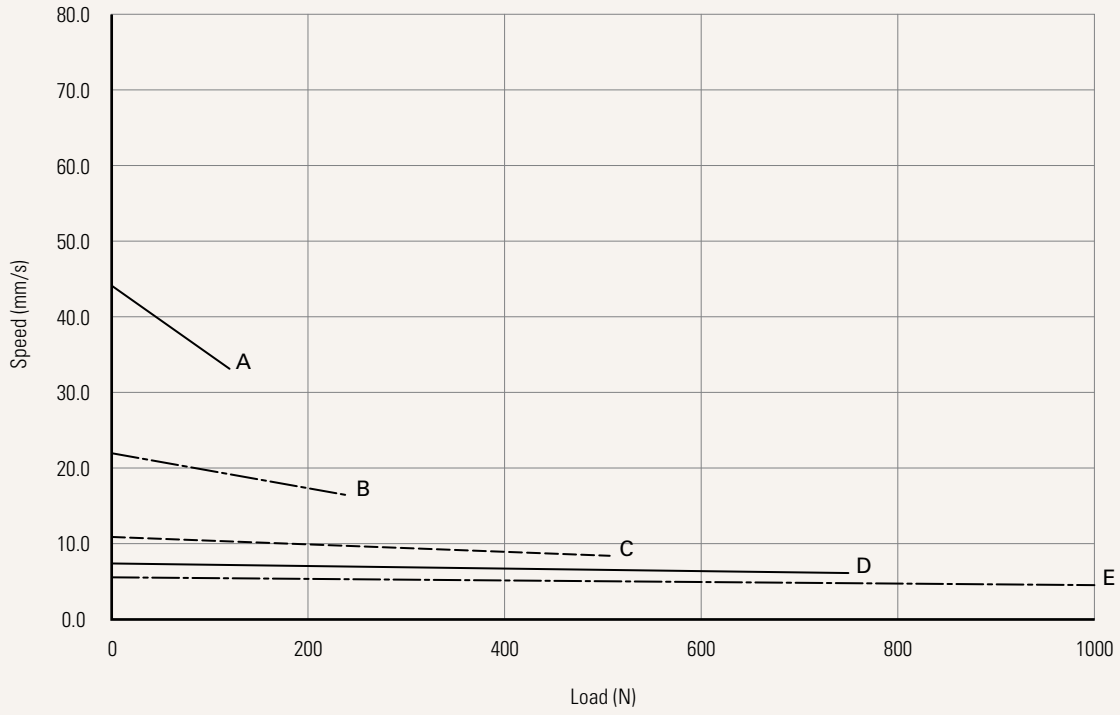
Current vs. Load



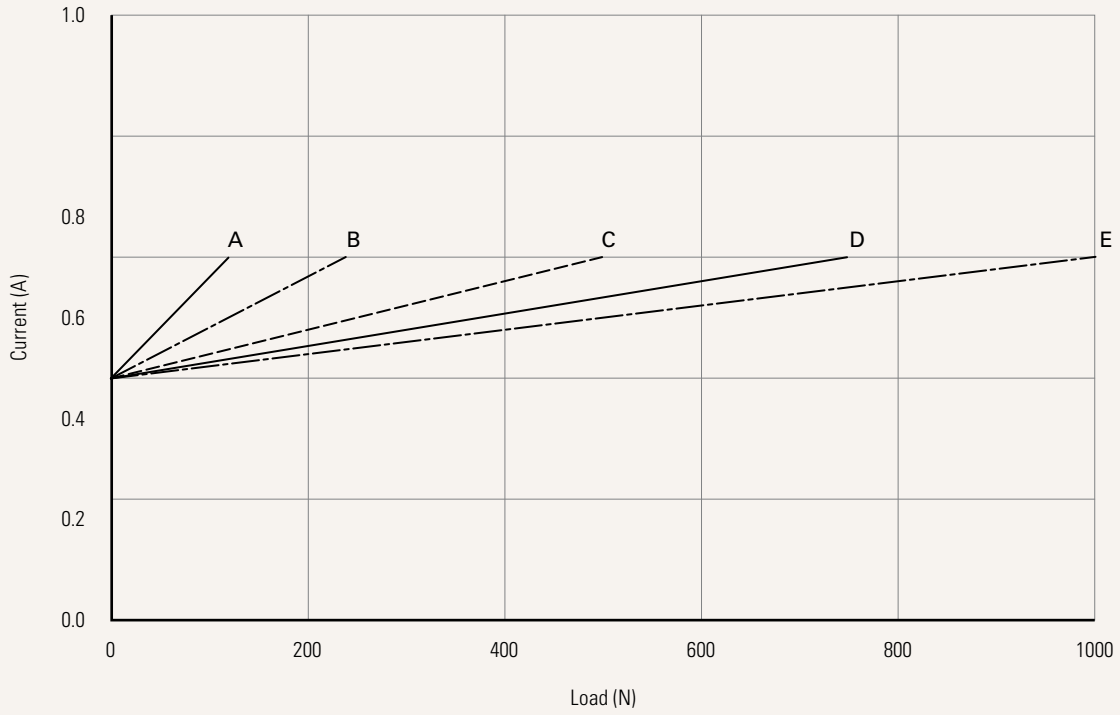
Performance Data (36V DC)

Motor Speed (4200RPM, duty cycle 25%)

Speed vs. Load



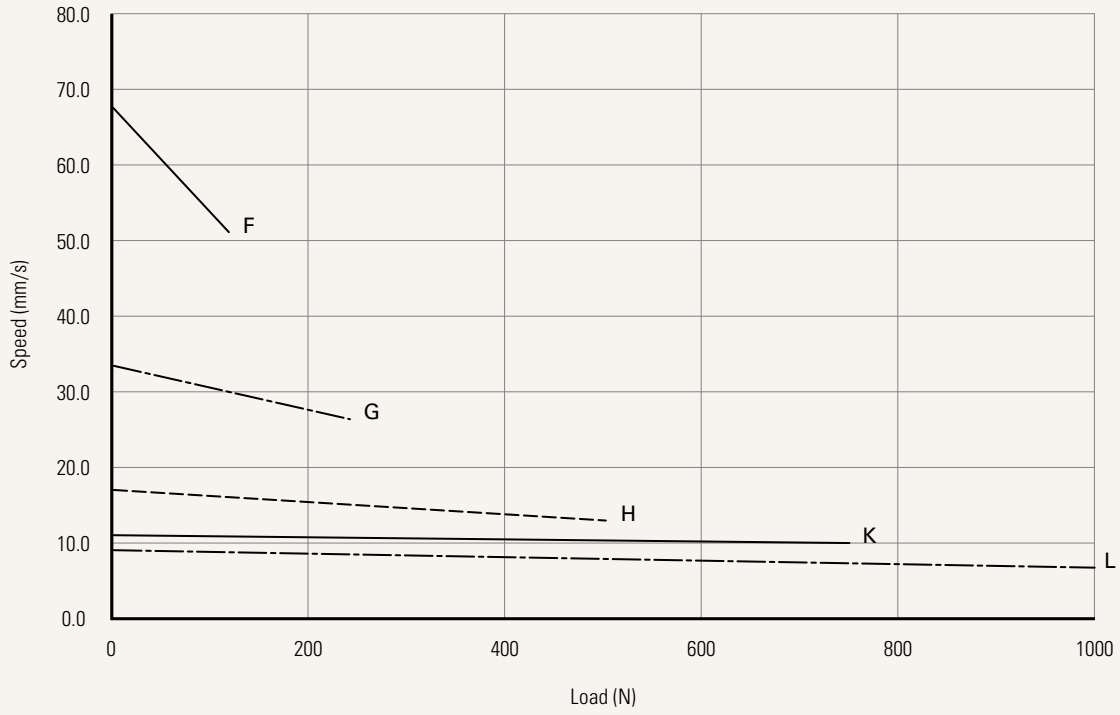
Current vs. Load



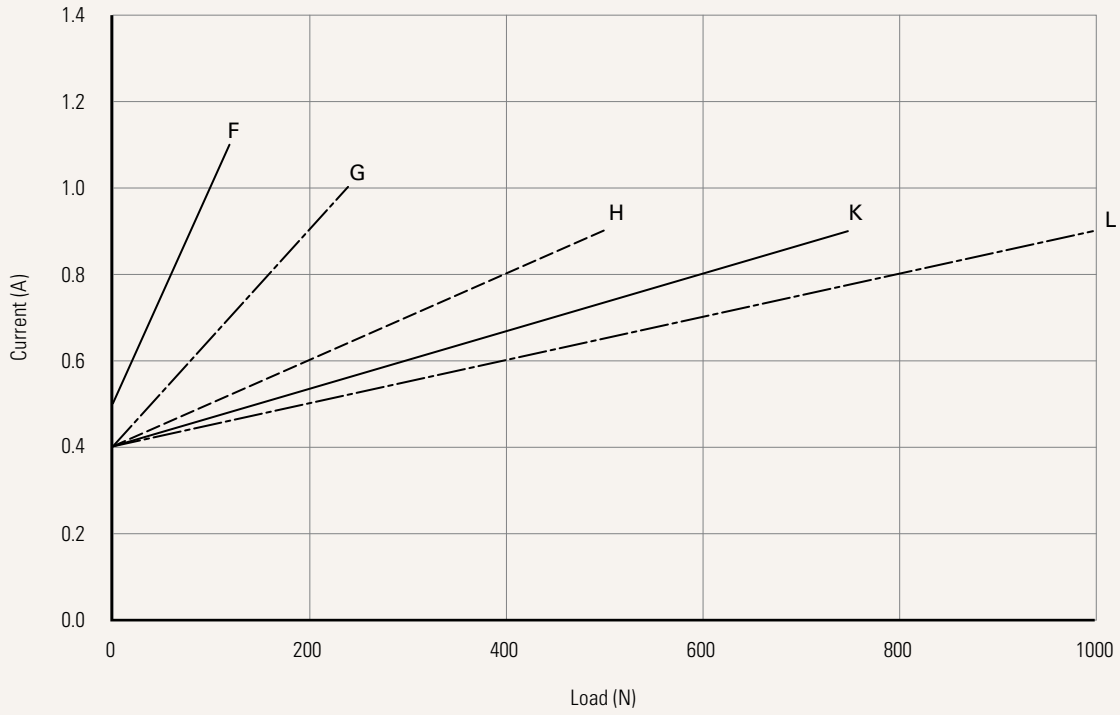
Performance Data (36V DC)

Motor Speed (6000RPM, duty cycle 25%)

Speed vs. Load



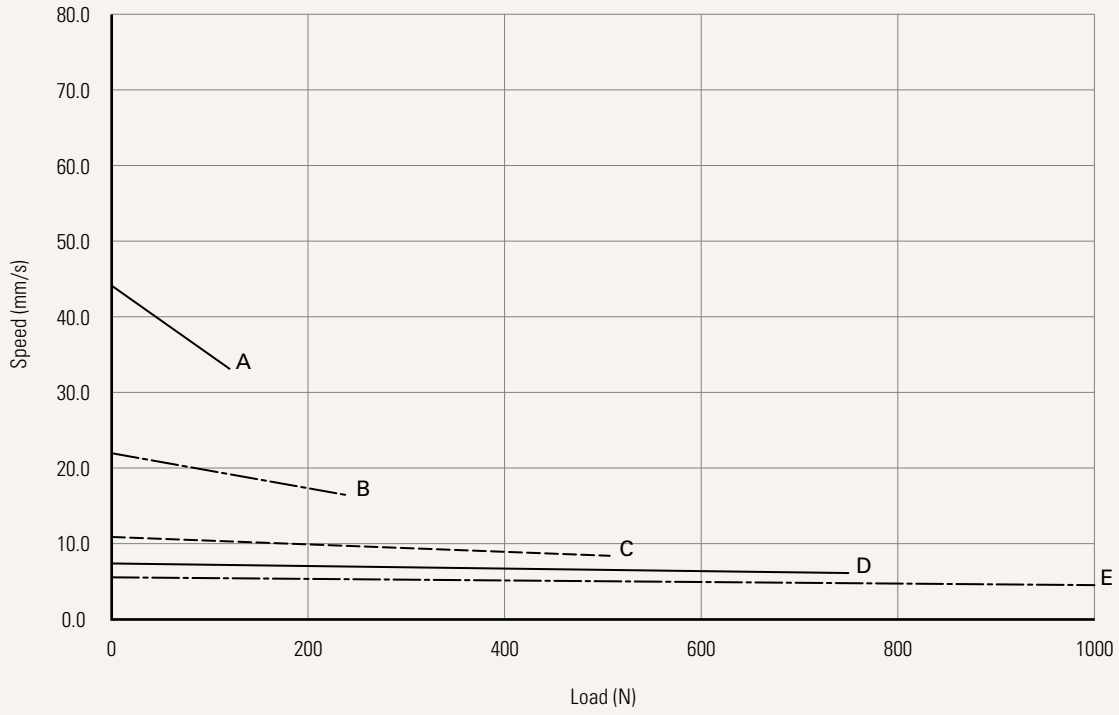
Current vs. Load



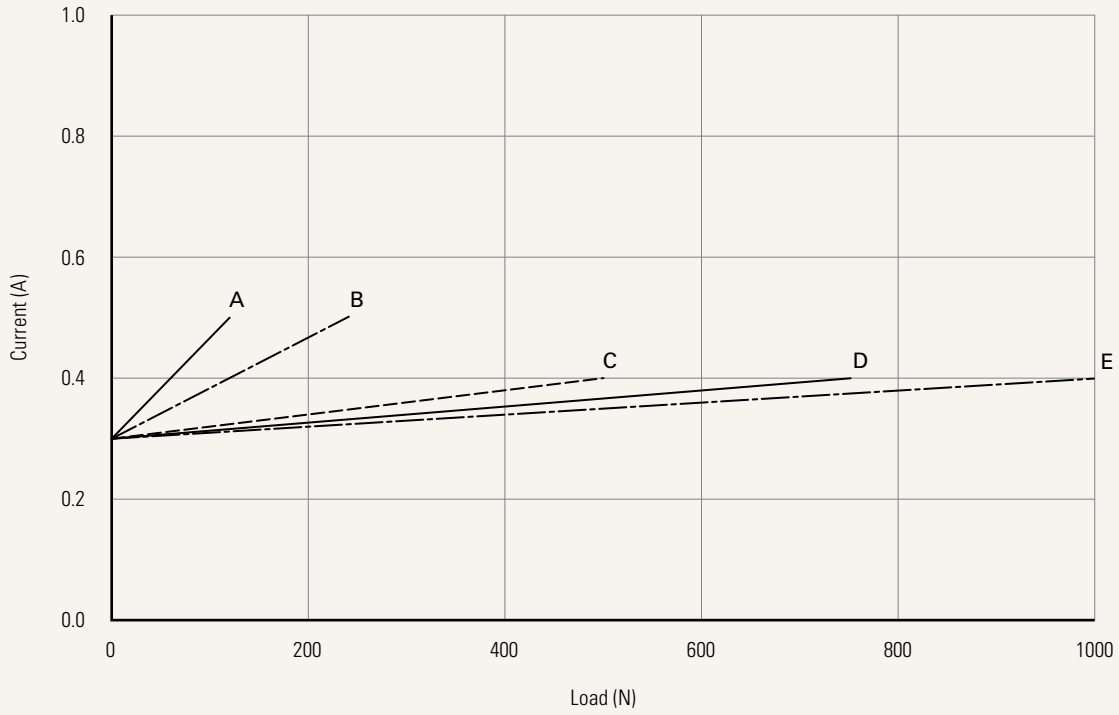
Performance Data (48V DC)

Motor Speed (4200RPM, duty cycle 25%)

Speed vs. Load



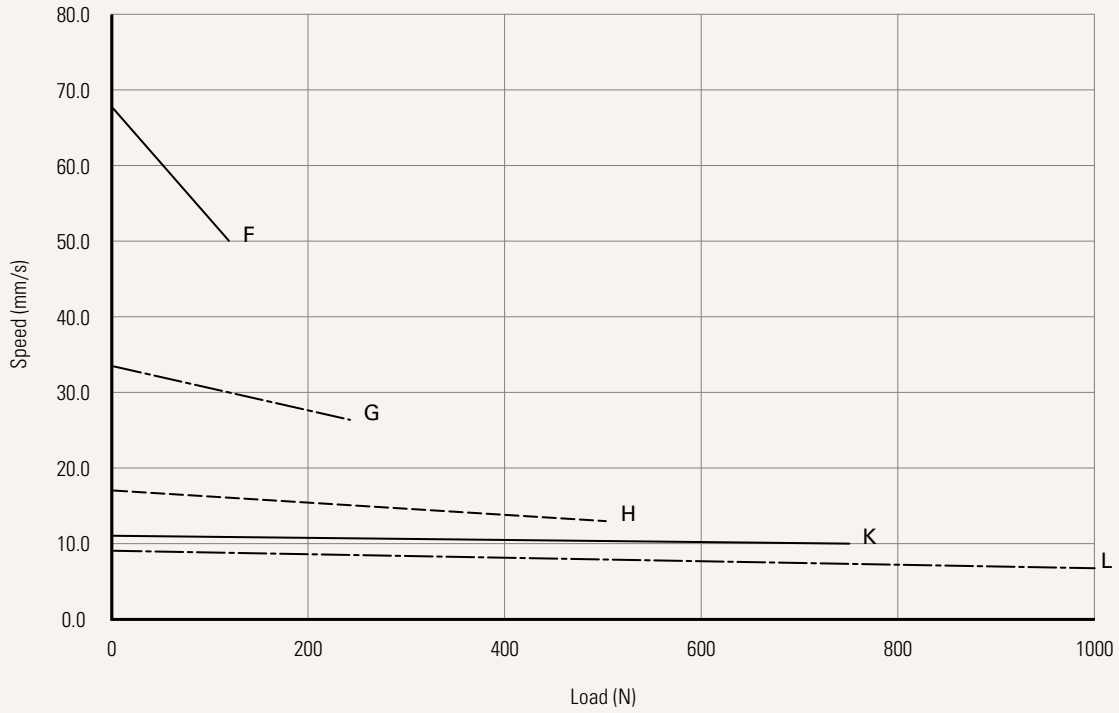
Current vs. Load



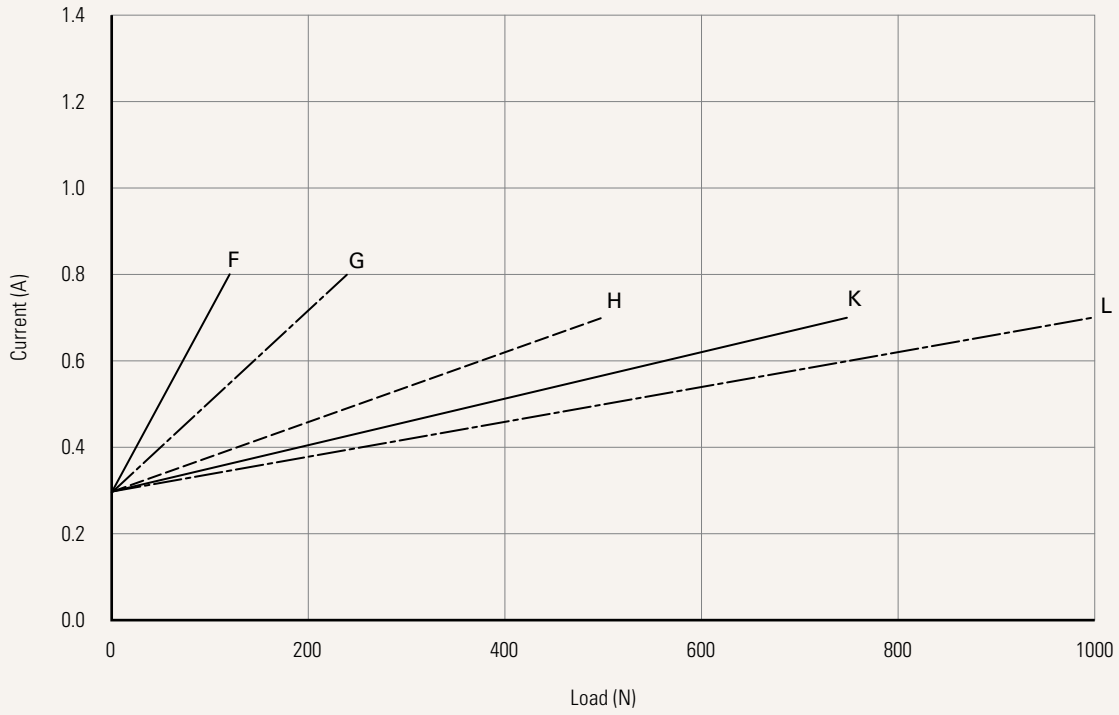
Performance Data (48V DC)

Motor Speed (6000RPM, duty cycle 25%)

Speed vs. Load



Current vs. Load



TA2 Ordering Key

TA2

Version: 20260330-AA

Voltage	1 = 12V DC	3 = 36V DC	5 = 24V DC, PTC	7 = 36V DC, PTC
	2 = 24V DC	4 = 48V DC	6 = 12V DC, PTC	8 = 48V DC, PTC
Load and Speed	See page 3			
Stroke (mm)	See page 4			
Retracted Length (mm)	See page 14			
Rear Attachment (mm) See page 15	1 = Aluminum, slotless, hole 6.4, one piece casting with gearbox		4 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 6.4, one piece casting with gearbox	
	2 = Aluminum, slotless, hole 8.0, one piece casting with gearbox		5 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 8.0, one piece casting with gearbox	
	3 = Aluminum, slotless, hole 10.0, one piece casting with gearbox		6 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 10.0, one piece casting with gearbox	
Front Attachment (mm) See page 16	1 = Aluminum, slotless, hole 6.4		4 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 6.4	
	2 = Aluminum, slotless, hole 8.0		5 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 8.0	
	3 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 10.0		6 = Aluminum, slotless, hole 10.0	
Direction of Rear Attachment (Counterclockwise) See page 16	1 = 90°	2 = 0°		
Functions of Limit Switches	1 = Two limit switches cut off the actuator at EOS			
	2 = Two limit switches cut off the actuator at EOS + third one in between sends signal			
	3 = Two limit switches send signal at EOS			
	4 = Two limit switches send signal at end of stroke + third one in-between sends signal			
Output Signal	0 = Without		9 = Outer Adjustable Reed switch * 2	
	1 = Mechanical pot.		N = NPN Hall sensor (5~36V input) * 2	
	8 = Outer Adjustable Reed switch * 1			
Connector See page 17	1 = DIN 6P, 90° plug	2 = Tinned leads		
Cable Length (mm)	0 = Straight, 100	1 = Straight, 300	2 = Straight, 600	3 = Straight, 1000
IP Rating	1 = Without	2 = IP54	3 = IP66	6 = IP66M

TA2 Ordering Key Appendix

Retracted Length (mm)

1. Calculate A+B+C = Y
2. Retracted length needs to ≥ Stroke + Y
3. IP66M with industrial wiper and gear box cover. The retracted length should refer to the table on the right.

A. Rear / Front Attachment		
Front Attachment	Rear Attachment	
	1, 2, 3	4, 5, 6
1, 2, 6	+105	+109
3, 4, 5	+115	+119

IP66M Min. Retracted length		
Front Attachment	Rear Attachment	
	1, 2, 3	4, 5, 6
1, 2, 6	≥ 148	≥ 151
3, 4, 5	≥ 158	≥ 162

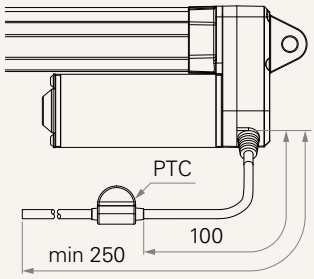
B. Stroke (mm)	
20~150	-
151~200	+2
201~250	+2
251~300	+2
301~350	+12
351~400	+22
401~450	+32
451~500	+42
501~550	+52
551~600	+62
601~650	+72
651~700	+82
701~750	+92
751~800	+102
801~850	+112
851~900	+122
901~950	+132
951~1000	+142

C. Output Signal	
CODE	
0	-
1, 3, N	+30
8, 9	+8

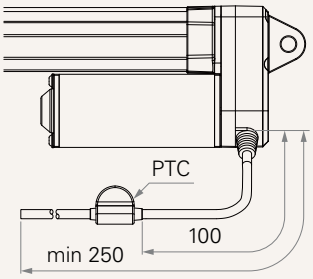
TA2 Ordering Key Appendix

Voltage

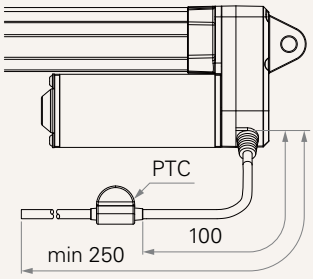
5 = 24V DC, PTC



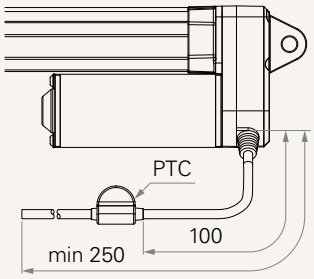
6 = 12V DC, PTC



7 = 36V DC, PTC

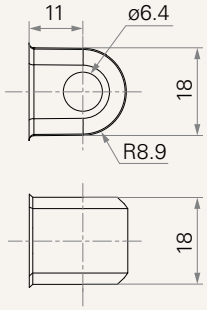


8 = 48V DC, PTC

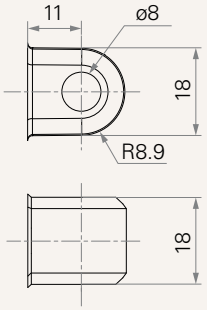


Rear Attachment (mm)

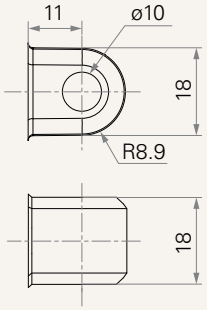
1 = Aluminum, slotless, hole 6.4, one piece casting with gearbox



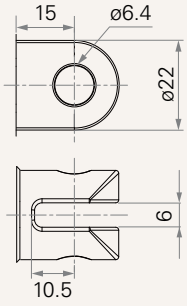
2 = Aluminum, slotless, hole 8.0, one piece casting with gearbox



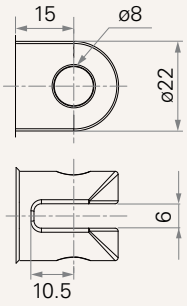
3 = Aluminum, slotless, hole 10.0, one piece casting with gearbox



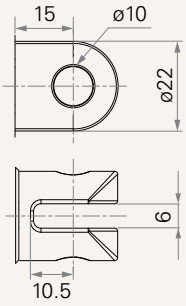
4 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 6.4, one piece casting with gearbox



5 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 8.0, one piece casting with gearbox



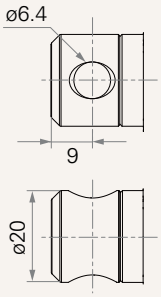
6 = Aluminum, U clevis, slot 6.0, depth 10.5, hole 10.0, one piece casting with gearbox



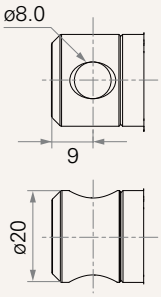
TA2 Ordering Key Appendix

Front Attachment (mm)

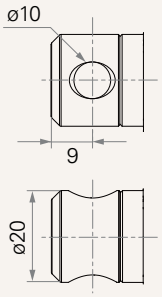
1 = Aluminum, slotless, hole 6.4



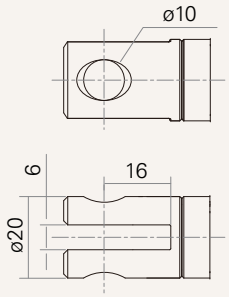
2 = Aluminum, slotless, hole 8.0



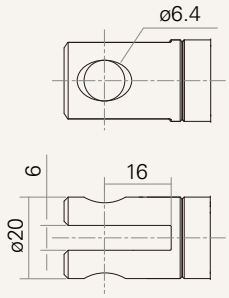
6 = Aluminum, slotless, hole 10.0



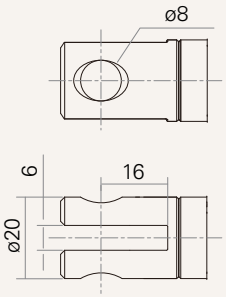
3 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 10.0



4 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 6.4

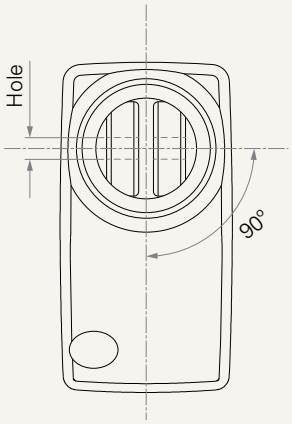


5 = Aluminum, U clevis, slot 6.0, depth 16.0, hole 8.0

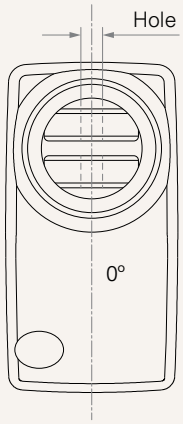


Direction of Rear Attachment (Counterclockwise)

1 = 90°

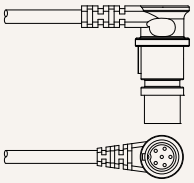


2 = 0°

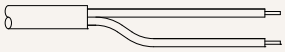


Connector

1 = DIN 6P, 90° plug



2 = Tinned leads



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