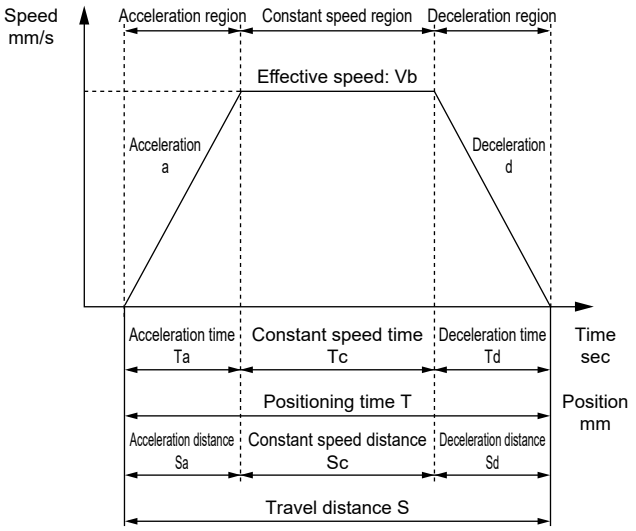
Model selection

STEP 1 Confirming load capacity

Load capacity varies with mounting orientation and screw lead.
Refer to the selection table (page 86) and the specification table for each model to select the size and screw lead.

STEP 2 Confirming positioning time

Calculate the positioning time of the selected product according to the following example and confirm that the required tact is achievable.
Select the speed and acceleration/deceleration from the specification table for each model and the motor selected by the customer.



	Description	Code	Unit	Remarks
Set value	Set speed	V	mm/s	
	Set acceleration	a	mm/s^2	
	Set deceleration	d	mm/s^2	
	Travel distance	S	mm	
Calculated value	Achieved speed	Vmax	mm/s	$= \{2 \times a \times d \times S/(a + d)\}^{1/2}$
	Effective speed	Vb	mm/s	Smaller of V and Vmax
	Acceleration time	Ta	s	= Vb/a [0.2 sec or more]
	Deceleration time	Td	s	= Vb/d [0.2 sec or more]
	Constant speed time	Tc	s	= Sc/Vb
	Acceleration distance	Sa	mm	$= (a \times Ta^2)/2$
	Deceleration distance	Sd	mm	$= (d \times Td^2)/2$
	Constant speed distance	Sc	mm	= S - (Sa + Sd)
	Positioning time	T	s	= Ta + Tc + Td

*Do not use at speeds that exceed the specifications.
*Acceleration/deceleration setting by acceleration/deceleration time varies with set speed and stroke length.
*Depending on acceleration/deceleration and stroke length, the trapezoid speed waveform may not be formed (the set speed may not be achieved). In this case, select the effective speed (Vb) from the set speed (V) and the achieved speed (Vmax), whichever is smaller.
*Use with acceleration time/deceleration time of 0.2 sec or longer.
*1 G ≈ 9.8 m/s^2.

STEP 3 Confirming allowable overhang length

Make sure that the load overhang length during operation is within the allowable range (pages 152 to 154).

For selection details, confirm with the CKD online model selection system, or contact CKD.

Introducing the online model selection system

[For confirmation via PC]

(https://www.ckd.co.jp/kiki/en/selection_system/)

[For confirmation via iPad or smartphone]

*Depending on your smartphone environment, it may not be displayed correctly.