

SANMOTION

LINEAR SERVO MOTOR

Linear Servo Motor

Flat type with core

High Acceleration Motion

With a smaller and lighter linear motor coil compared to our conventional product,* this motor features an increased maximum thrust and a 7% higher maximum acceleration. Also, the thrust at high speeds has been increased for fast acceleration and deceleration even at high speeds. This reduces the cycle time of your equipment and increases productivity.

Energy Saving

Power loss has been reduced by 10% compared to the conventional product,* making your equipment more energy efficient. The motor's low heat generation keeps thermal expansion low, consistently providing high precision.

* Conventional product: Flat type linear servo motor with core (model no.: DS045CC1AN)

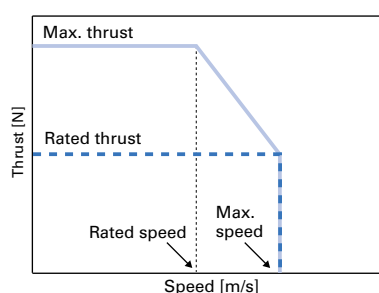


■ Specifications

Coil model no.	Rated thrust [N]	Max. thrust [N]	Rated speed [m/s]	Max. speed [m/s]	Magnetic attraction force [N]	Mover mass [kg]	Compatible magnet rail model no.	Compatible servo amplifier model no.
DS050CD1AN	340	630	2.0	3.0	2000	2.15	DS050MD□□□	RS3A03

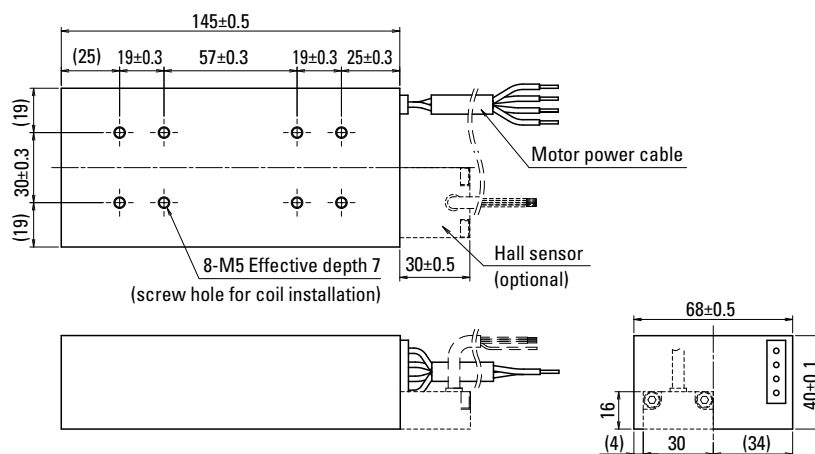
Magnet rail model no.	Magnet rail mass [kg]	Dimensions [mm]			
		L1	L2	N1	N2
DS050MD064	0.22	64	32	1	4
DS050MD128	0.45	128	96	3	8
DS050MD256	0.9	256	224	7	16
DS050MD512	1.8	512	480	15	32

Thrust-Speed Characteristics

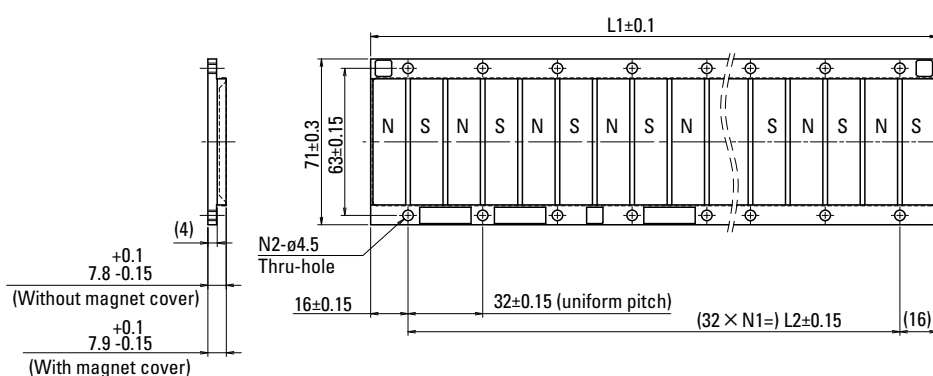


Coil dimensions

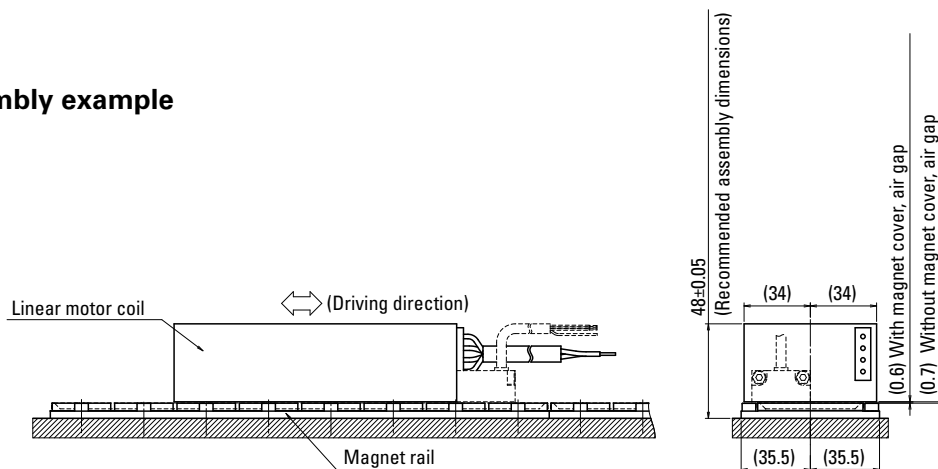
(Unit: mm)



Magnet rail dimensions



Recommended assembly example



Linear Servo Motors

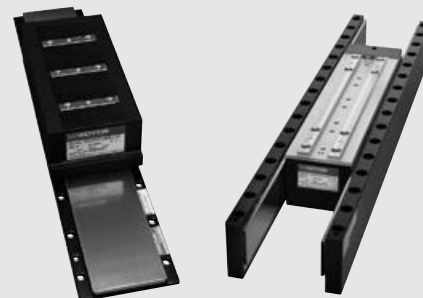
Dual Magnet type [with core]

Flat type [with core]

Center Magnet type [with core]

Compact linear servo motors with large thrust.

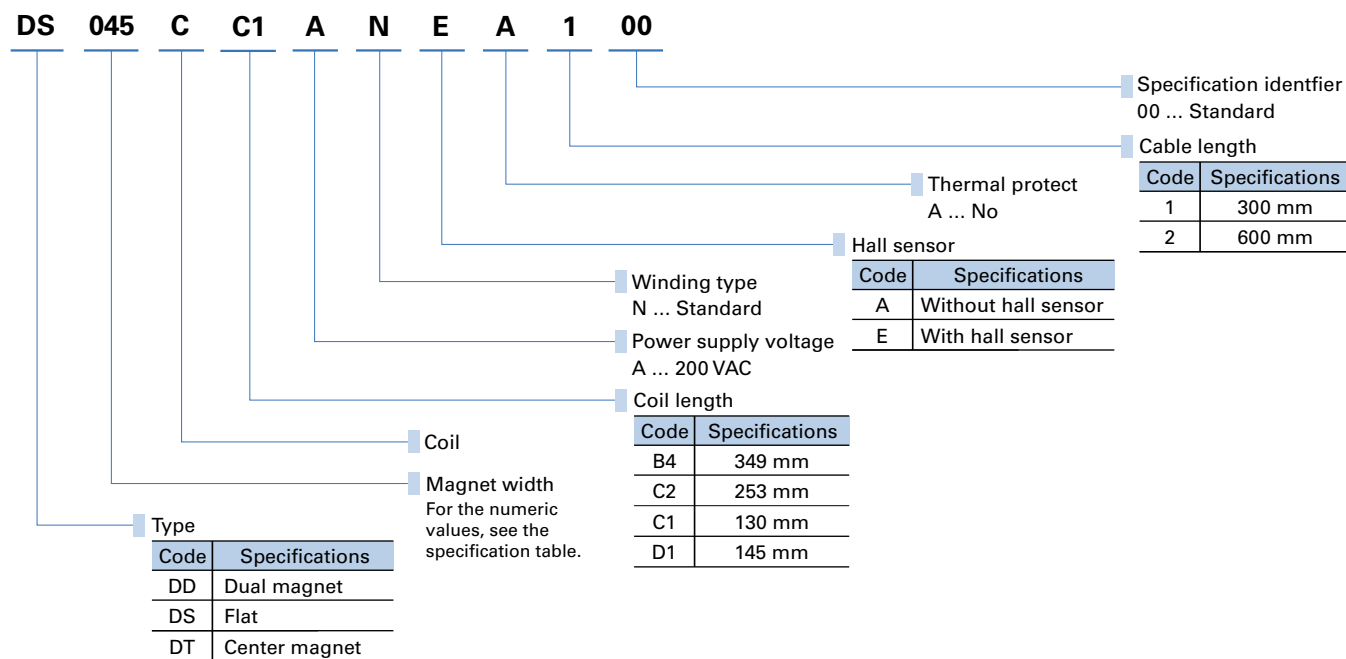
Contact us for the model number of compatible amplifiers.



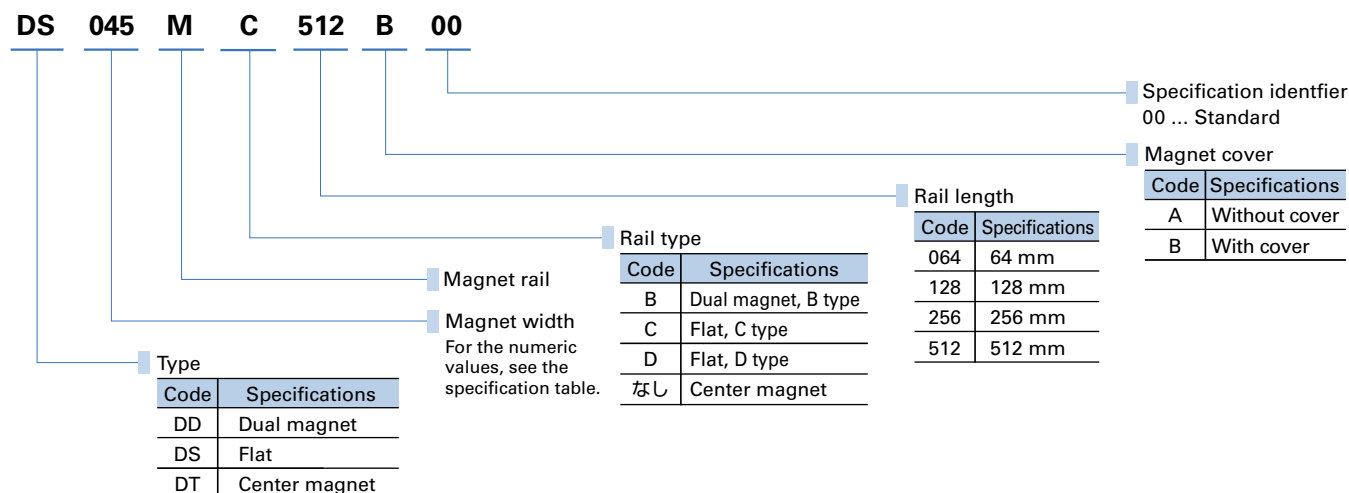
How to read model numbers

Note that not all the possible combinations of the numbers and characters below are valid. Also, some of the numbers/characters listed below are for optional models.

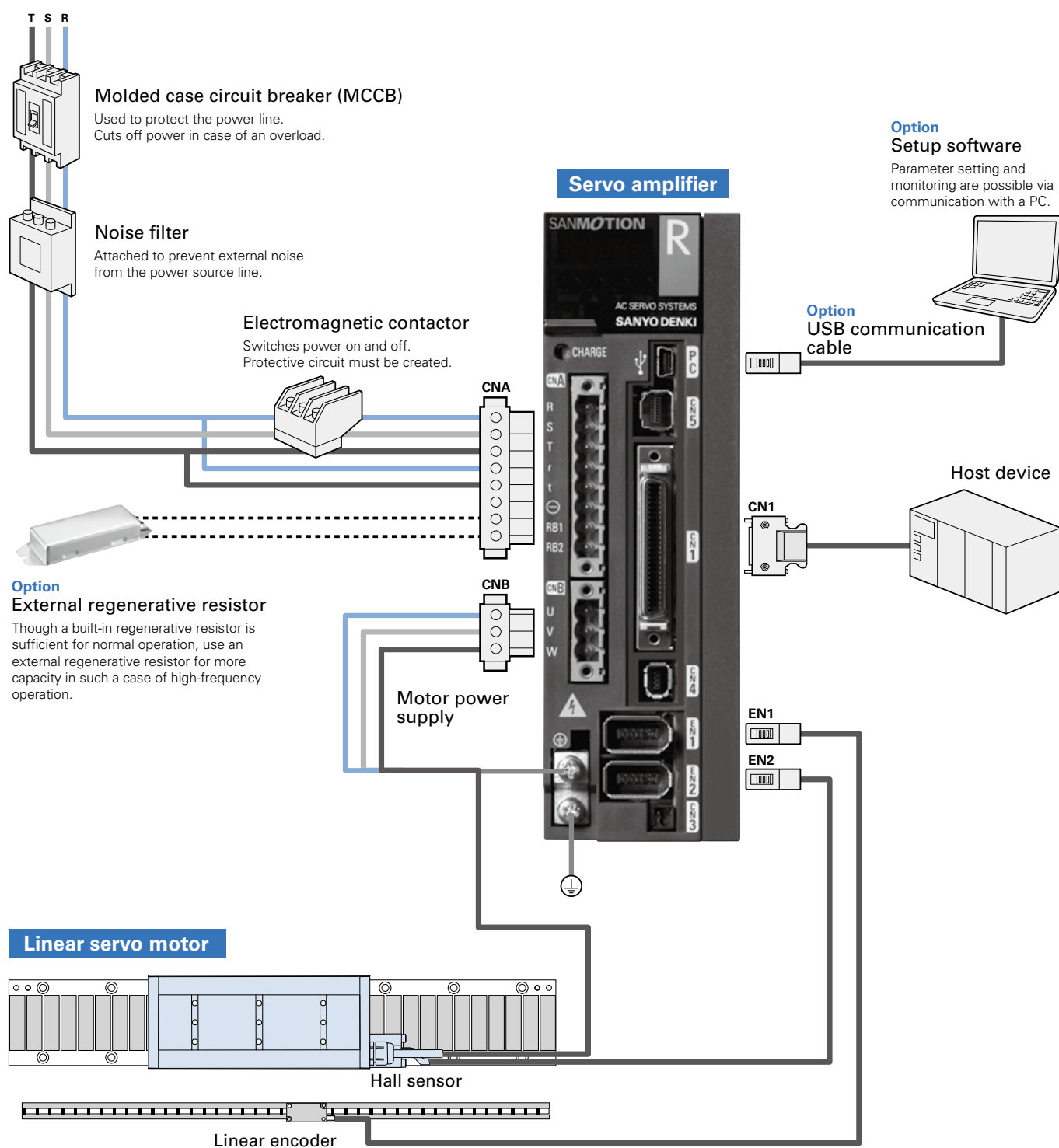
Coil



Magnet rail



System Configuration Analog/Pulse Input type



Options Analog/Pulse Input type

■Connector to connect servo amplifier

10 to 50 A

Individual connectors

Connector no.	Item	Model no.	Manufacturer model no.	Manufacturer
CN1	For controller connection	AL-00385594	10150-3000PE and 10350-52A0-008	3M Japan Limited
EN1, EN2	For linear encoder and hall sensor connections	AL-00632607	36210-0100PL and 36310-3200-008	
CNA ⁽¹⁾	For input power supply and regenerative resistor connections	AL-00686902-01	MSTBT2.5/8-STF-5.08LUB	Phoenix Contact.K.K
CNB	For linear motor connection	AL-Y0004079-01	MSTBT2.5/3-STF-5.08	
CN4 ⁽²⁾	For safety device connection (for short-circuiting)	AL-00849548-02	1971153-2	Tyco Electronics Japan G.K.
CN4	For safety device connection (for wiring)	AL-00718252-01	2013595-3	

(1) Amplifiers with built-in regenerative resistor are equipped with a CNA connector.

(2) When CN4 is not wired, be sure to insert a safety device connector (for short-circuiting) to CN4 on the servo amplifier.

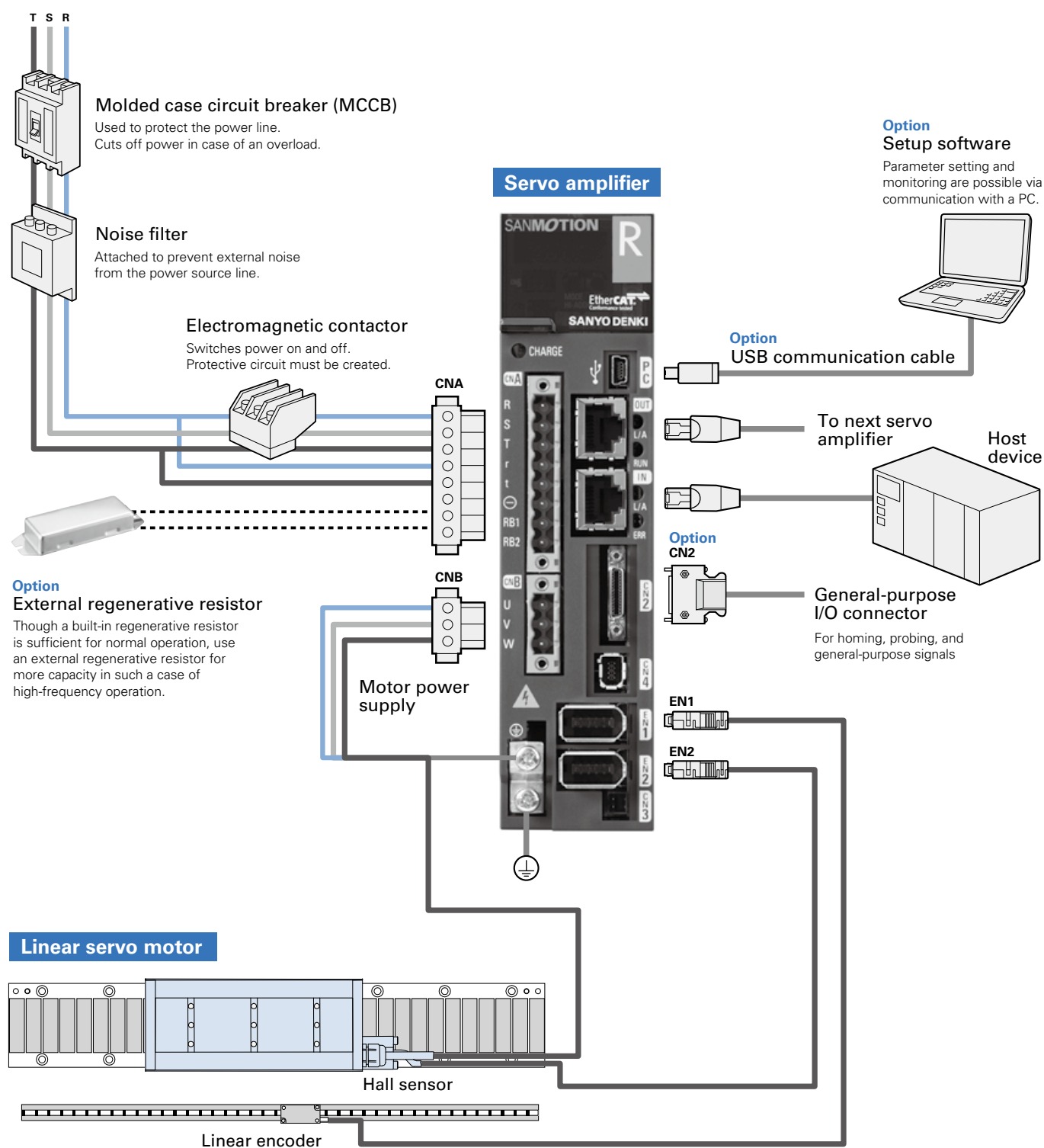
Connector sets (For non-STO models)

Built-in regenerative resistor		No	Yes	No	Yes	No/Yes	No/Yes	No
Connector set no.		AL-00723282	AL-00723284	AL-00723286	AL-00723288	AL-00723290	AL-00781940	AL-00696037
Connectors included in the set	CN1: For controller connection	Yes	Yes	Yes	Yes	Yes	Yes	No
	EN1: For encoder connection	Yes	Yes	Yes	Yes	Yes	Yes	No
	EN2: For encoder connection	No	No	Yes	Yes	No	Yes	No
	CNA: For input power supply and regenerative resistor connections	Yes	No	Yes	No	No	No	Yes
	CNB: For servo motor connection	Yes	Yes	Yes	Yes	No	No	Yes
	CN4: For safety device connection (for short-circuiting)	No	No	No	No	No	No	No
	CN4: For safety device connection (for wiring)	No	No	No	No	No	No	No
Remarks				With hall sensor			With hall sensor	

Connector sets (For STO models)

Built-in regenerative resistor		No	Yes	No	Yes	No/Yes	No/Yes
Connector set no.		AL-00723155	AL-00723156	AL-00723157	AL-00723158	AL-00723159	AL-00781942
Connectors included in the set	CN1: For controller connection	Yes	Yes	Yes	Yes	Yes	Yes
	EN1: For encoder connection	Yes	Yes	Yes	Yes	Yes	Yes
	EN2: For encoder connection	No	No	Yes	Yes	No	Yes
	CNA: For input power supply and regenerative resistor connections	Yes	No	Yes	No	No	No
	CNB: For servo motor connection	Yes	Yes	Yes	Yes	No	No
	CN4: For safety device connection (for short-circuiting)	No	No	No	No	No	No
	CN4: For safety device connection (for wiring)	Yes	Yes	Yes	Yes	Yes	Yes
Remarks				With hall sensor			With hall sensor

System Configuration EtherCAT interface type



Options EtherCAT interface type

■Connector to connect servo amplifier

10 to 50 A

Individual connectors

Connector no.	Description	Model no.	Manufacturer model no.	Manufacturer
IN, OUT	Ethernet For controller connection	Not available Use a CAT5e standard-compliant shielded type modular plug (RJ-45).		
EN1, EN2	For encoder connection	AL-00530312-01	54599-1019	Molex Japan Co., Ltd.
CNA ⁽¹⁾	For input power supply and regenerative resistor connections	AL-00686902-01	MSTBT2.5/8-STF-5.08LUB	Phoenix Contact.K.K
CNB	For servo motor connection	AL-Y0004079-01	MSTBT2.5/3-STF-5.08	Phoenix Contact.K.K
CN4	For safety device connection (for wiring)	AL-00718252-01	2013595-3	Tyco Electronics Japan G.K.
CN4 ⁽²⁾	For safety device connection (for short-circuiting)	AL-00849548-02	1971153-2	Tyco Electronics Japan G.K.
CN2	For general-purpose I/O	AL-00842383	A set of HDR-E26MSG1+ and HDR-E26LPH	HONDA TSUSHIN KOGYO CO., LTD

(1) Amplifiers with built-in regenerative resistor are equipped with a CNA connector.

(2) A safety device connector (for short-circuiting) is included with a servo amplifier.

Connector sets (For STO models)

Built-in regenerative resistor		No	Yes	No	Yes	No/Yes
Connector set no.		AL-00977724	AL-00977726	AL-00977728	AL-00977730	AL-00977732
Connectors included in the set	EN1: For encoder connection	Yes	Yes	Yes	Yes	Yes
	EN2: For encoder connection	No	No	Yes	Yes	No
	CNA: To connect input power supply, regenerative resistor	Yes	No	Yes	No	No
	CNB: For servo motor connection	Yes	Yes	Yes	Yes	No
	CN4: For safety device connection (for short-circuiting)	No	No	No	No	No
	CN4: For safety device connection (for wiring)	Yes	Yes	Yes	Yes	Yes
	CN2: For general-purpose I/O	Yes	Yes	Yes	Yes	Yes
Remarks				With hall sensor		

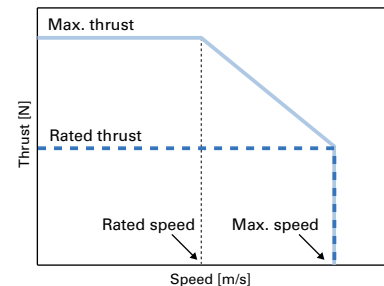
Dual Magnet type [with core] (Unit in drawings: mm)

Specifications

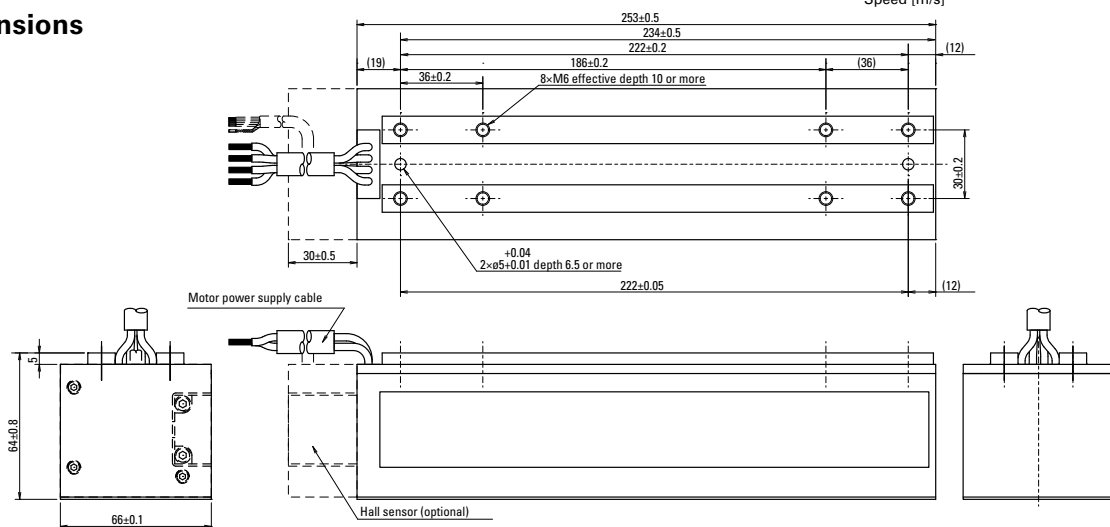
Coil model no.	Rated thrust [N]	Max. thrust [N]	Rated speed [m/s]	Max. speed [m/s]	Magnetic attraction force [N]	Coil mass [kg]	Compatible magnet rail model no.	Compatible servo amplifier model no.
DD035CC2AN□A□00	610	1400	2.0	3.0	350	5.0	DD035MB□□□	RS3A07L

Magnet rail model no.	Magnet rail mass [kg]	Dimensions[mm]			
		L1	L2	N1	N2
DD035MB064□00	0.9	64	32	1	2
DD035MB128□00	1.9	128	96	3	4
DD035MB256□00	3.7	256	224	7	8
DD035MB512□00	7.5	512	480	15	16

Thrust-Speed Characteristics



Coil dimensions



Magnet rail dimensions

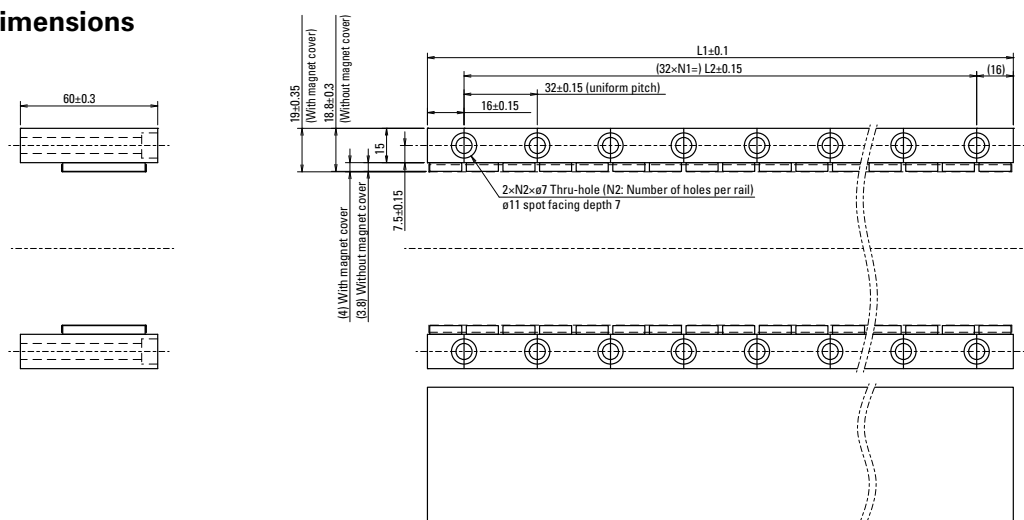
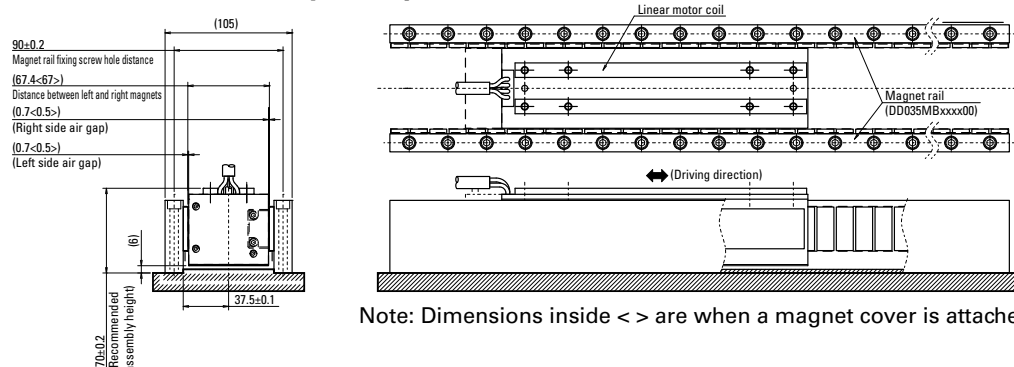


Diagram of recommended assembly example



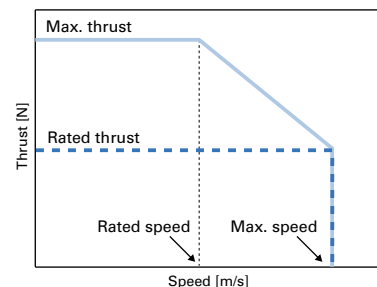
Note: Dimensions inside <> are when a magnet cover is attached

Specifications

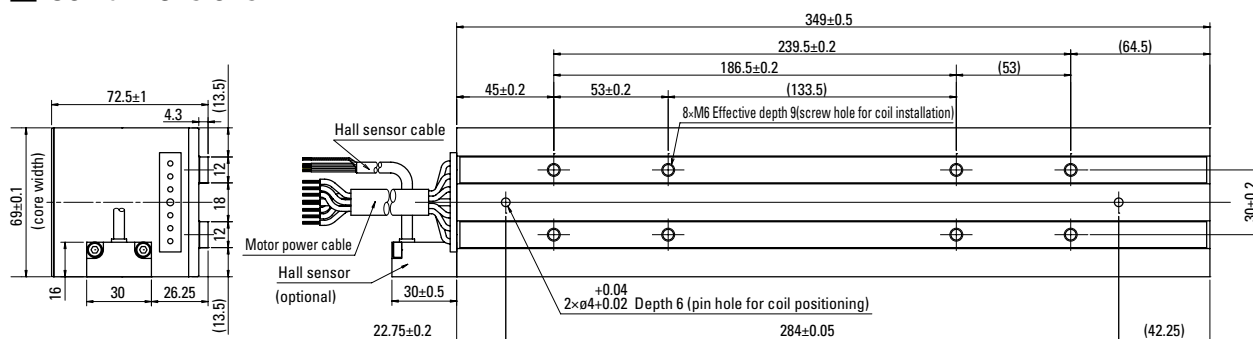
Coil model no.	Rated thrust [N]	Max. thrust [N]	Rated speed [m/s]	Max. speed [m/s]	Magnetic attraction force [N]	Coil mass [kg]	Compatible magnet rail model no.	Compatible servo amplifier model no.
DD045CB4AN□A□00	800	2200	1.9	3.0	600	8.6	DD045MB□□□□	RS3A07L

Magnet rail model no.	Magnet rail mass (total of 2 rails) [kg]	Dimensions [mm]			
		L1	L2	N1	N2
DD045MB064□□00	1.4	64	32	1	2
DD045MB128□□00	2.8	128	96	3	4
DD045MB256□□00	5.5	256	224	7	8
DD045MB512□□00	11.1	512	480	15	16

Thrust-Speed Characteristics



Coil dimensions



Magnet rail dimensions

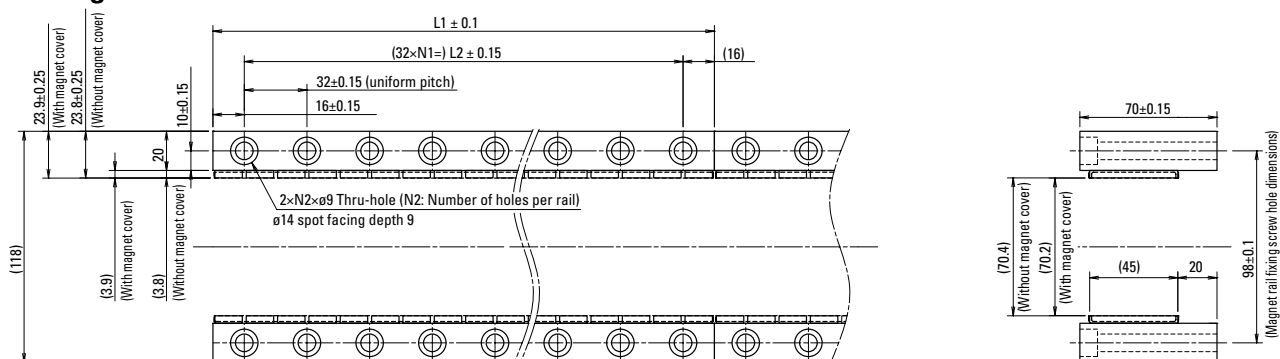
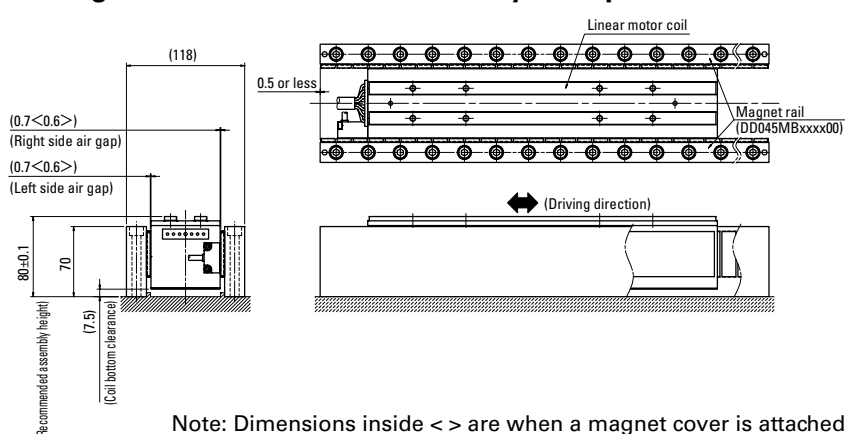


Diagram of recommended assembly example



Note: Dimensions inside < > are when a magnet cover is attached

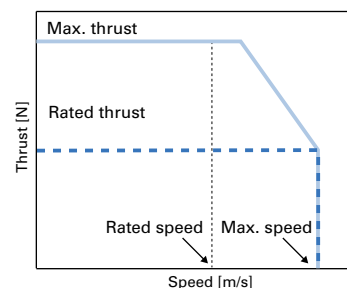
Flat type [with core]

Specifications

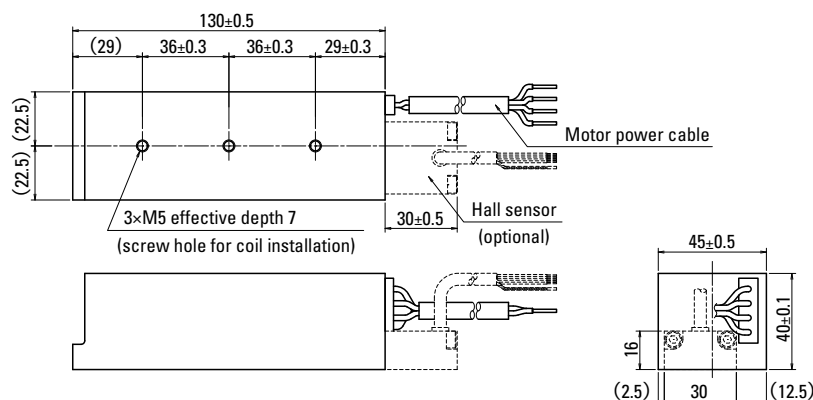
Coil model no.	Rated thrust [N]	Max. thrust [N]	Rated speed [m/s]	Max. speed [m/s]	Magnetic attraction force [N]	Coil mass [kg]	Compatible magnet rail model no.	Compatible servo amplifier model no.
DS025CC1AN□A□00	140	270	2.3	3.2	940	1.1	DS025MC□□□	RS3A02

Magnet rail model no.	Magnet rail mass [kg]	Dimensions[mm]			
		L1	L2	N1	N2
DS025MC064□□00	0.1	64	32	1	4
DS025MC128□□00	0.3	128	96	3	8
DS025MC256□□00	0.5	256	224	7	16
DS025MC512□□00	1.0	512	480	15	32

Thrust-Speed Characteristics



Coil dimensions



Magnet rail dimensions

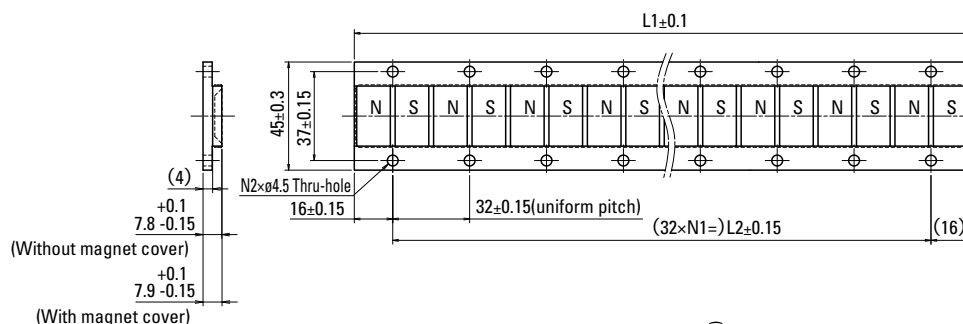
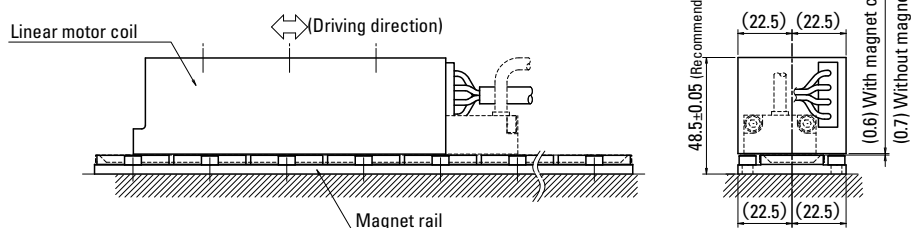


Diagram of recommended assembly example

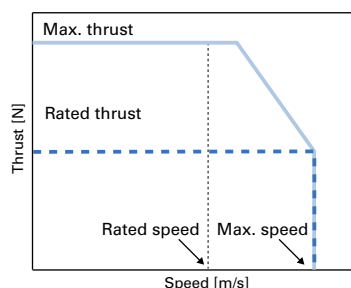


Specifications

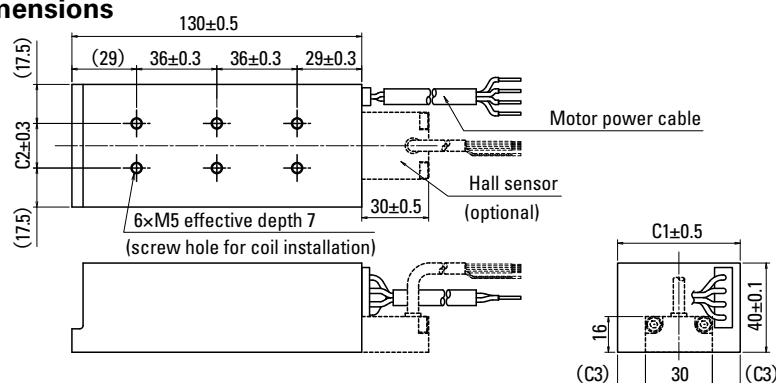
Coil model no.	Rated thrust [N]	Max. thrust [N]	Rated speed [m/s]	Max. speed [m/s]	Magnetic attraction force [N]	Coil mass [kg]	Dimensions[mm]			Compatible magnet rail model no.	Compatible servo amplifier model no.
							C1	C2	C3		
DS035CC1AN□A□00	200	390	1.9	2.6	1300	1.5	55	20	12.5	DS035MC□□□□	RS3A03
DS045CC1AN□A□00	260	500	1.8	3.0	1700	1.8	65	30	17.5	DS045MC□□□□	RS3A03
DS055CC1AN□A□00	310	600	1.9	3.0	2300	2.1	75	40	22.5	DS055MC□□□□	RS3A03
DS065CC1AN□A□00	340	700	2.1	3.0	2700	2.5	85	50	27.5	DS065MC□□□□	RS3A05

Magnet rail model no.	Magnet rail mass [kg]	Dimensions[mm]														
		L1	L2	N1	N2	E1	E2	E3	E4	E5	S1	S2	S3	S4	S5	
DS035MC064□□00	0.2	64	32	1	4	55	47	4	7.8	7.9	27.5	27.5	48.5	0.6	0.7	
DS035MC128□□00	0.3	128	96	3	8	55	47	4	7.8	7.9	27.5	27.5	48.5	0.6	0.7	
DS035MC256□□00	0.7	256	224	7	16	55	47	4	7.8	7.9	27.5	27.5	48.5	0.6	0.7	
DS035MC512□□00	1.3	512	480	15	32	55	47	4	7.8	7.9	27.5	27.5	48.5	0.6	0.7	
DS045MC064□□00	0.2	64	32	1	4	62	54	4	7.8	7.9	32.5	31	48.5	0.6	0.7	
DS045MC128□□00	0.4	128	96	3	8	62	54	4	7.8	7.9	32.5	31	48.5	0.6	0.7	
DS045MC256□□00	0.8	256	224	7	16	62	54	4	7.8	7.9	32.5	31	48.5	0.6	0.7	
DS045MC512□□00	1.5	512	480	15	32	62	54	4	7.8	7.9	32.5	31	48.5	0.6	0.7	
DS055MC064□□00	0.3	64	32	1	4	75	67	5.5	9.5	9.6	37.5	37.5	50	0.4	0.5	
DS055MC128□□00	0.6	128	96	3	8	75	67	5.5	9.5	9.6	37.5	37.5	50	0.4	0.5	
DS055MC256□□00	1.2	256	224	7	16	75	67	5.5	9.5	9.6	37.5	37.5	50	0.4	0.5	
DS055MC512□□00	2.4	512	480	15	32	75	67	5.5	9.5	9.6	37.5	37.5	50	0.4	0.5	
DS065MC064□□00	0.4	64	32	1	4	85	77	5.5	9.5	9.6	42.5	42.5	50	0.4	0.5	
DS065MC128□□00	0.7	128	96	3	8	85	77	5.5	9.5	9.6	42.5	42.5	50	0.4	0.5	
DS065MC256□□00	1.4	256	224	7	16	85	77	5.5	9.5	9.6	42.5	42.5	50	0.4	0.5	
DS065MC512□□00	2.8	512	480	15	32	85	77	5.5	9.5	9.6	42.5	42.5	50	0.4	0.5	

Thrust-Speed Characteristics



Coil dimensions



Magnet rail dimensions

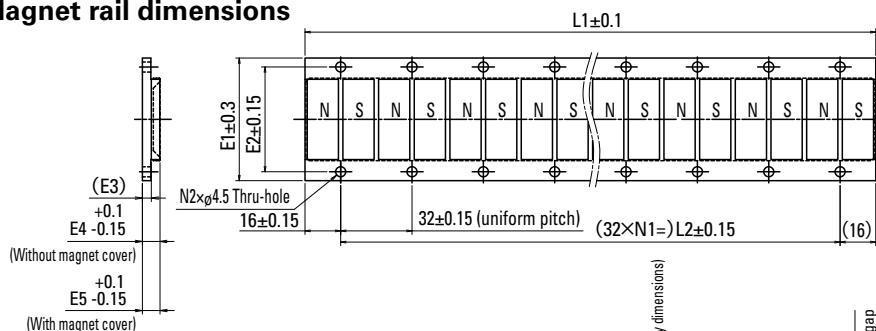
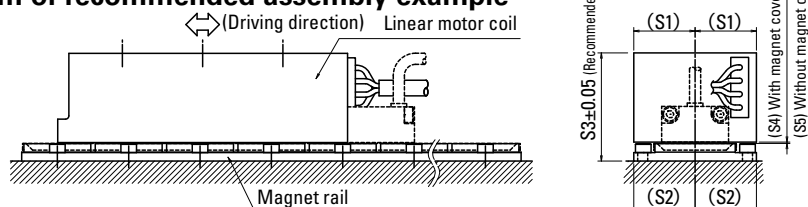


Diagram of recommended assembly example



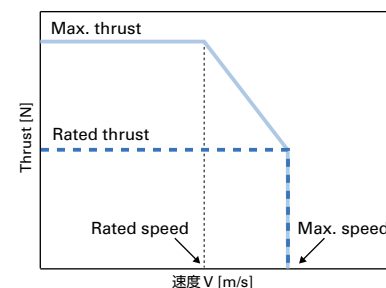
Flat type [with core] (Unit in drawings: mm)

Specifications

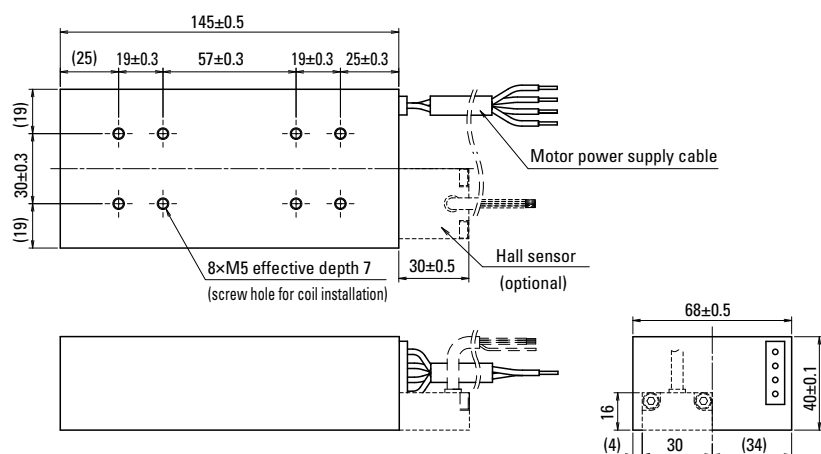
Coil model no.	Rated thrust [N]	Max. thrust [N]	Rated speed [m/s]	Max. speed [m/s]	Magnetic attraction force [N]	Coil mass [kg]	Compatible magnet rail model no.	Compatible servo amplifier model no.
DS050CD1AN□A□00	340	630	2.0	3.0	2000	2.15	DS050MD□□□	RS3A03

Magnet rail model no.	Magnet rail mass [kg]	Dimensions[mm]			
		L1	L2	N1	N2
DS050MD064□□00	0.2	64	32	1	4
DS050MD128□□00	0.5	128	96	3	8
DS050MD256□□00	0.9	256	224	7	16
DS050MD512□□00	1.8	512	480	15	32

Thrust-Speed Characteristics



Coil dimensions



Magnet rail dimensions

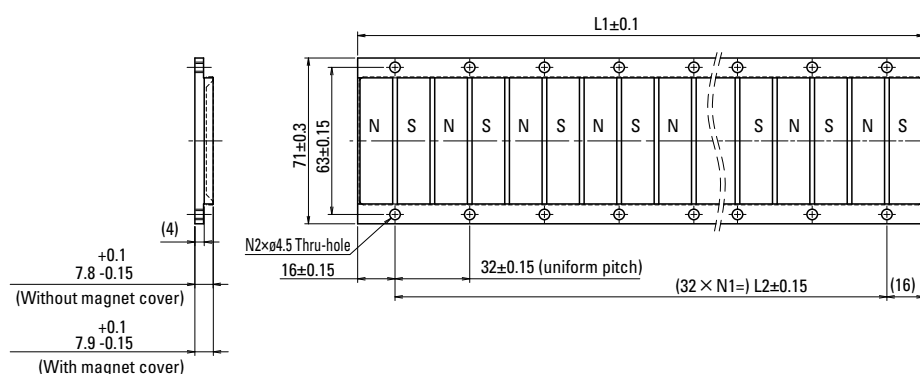
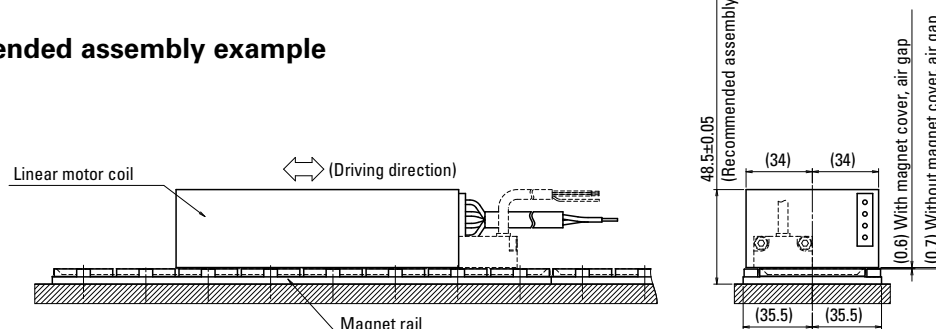


Diagram of recommended assembly example



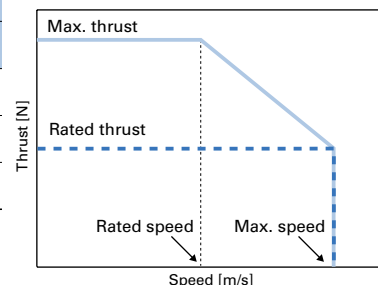
Center Magnet type [with core] (Unit in drawings: mm)

■ Specifications

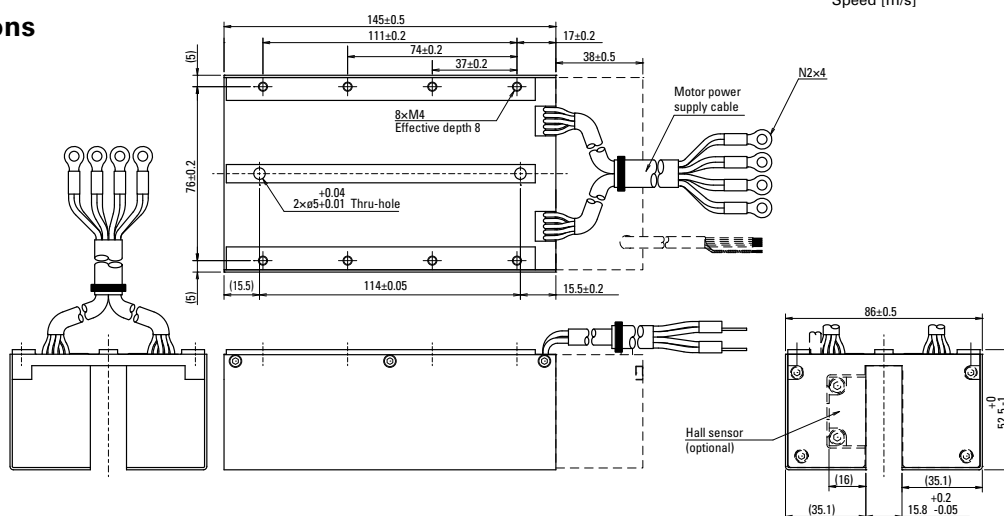
Coil model no.	Rated thrust [N]	Max. thrust [N]	Rated speed [m/s]	Max. speed [m/s]	Magnetic attraction force [N]	Coil mass [kg]	Compatible magnet rail model no.	Compatible servo amplifier model no.
DT030CD1AN□A□00	350	650	1.9	2.5	0	2.4	DT030M□□□	RS3A03L

Magnet rail model no.	Magnet rail mass [kg]	Dimensions				
		L1	L2	L3	N1	N2
DT030M128□00	0.5	128	96	80	7	6
DT030M256□00	0.9	256	224	208	15	14
DT030M512□00	1.9	512	480	464	31	30

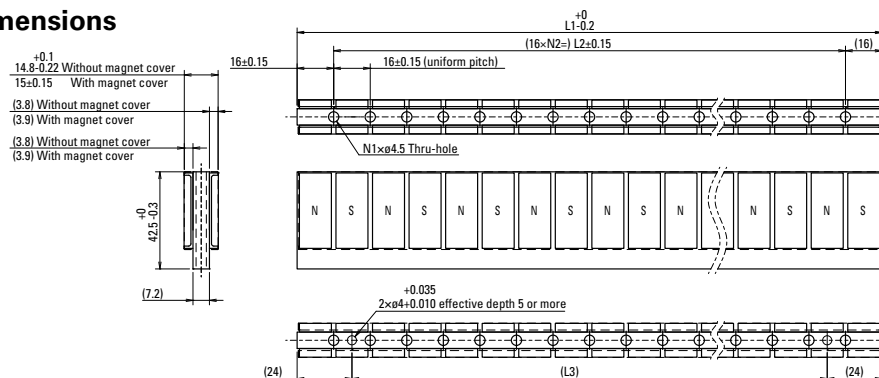
Thrust-Speed Characteristics



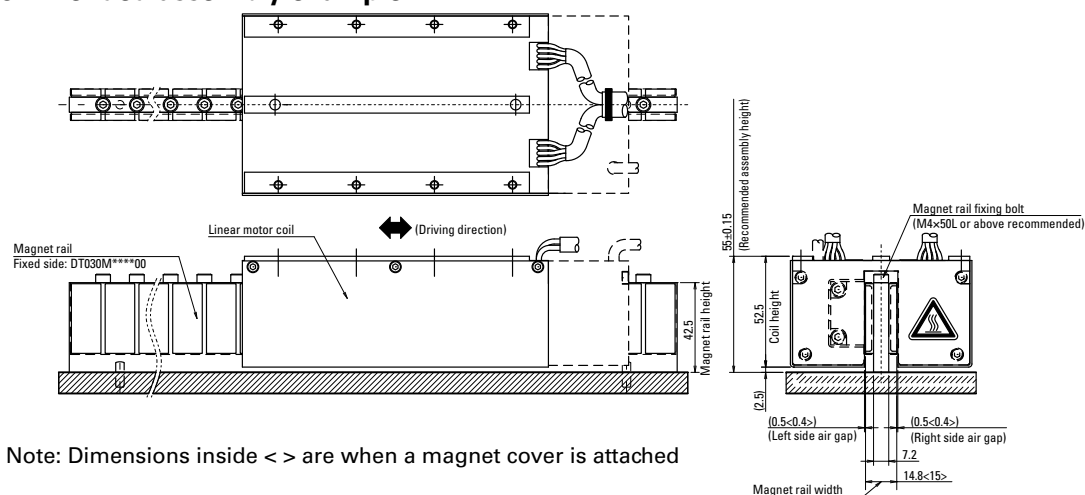
Coil dimensions



■ Magnet rail dimensions



■ Diagram of recommended assembly example



Note: Dimensions inside < > are when a magnet cover is attached