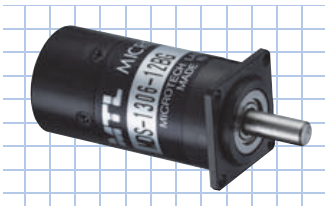
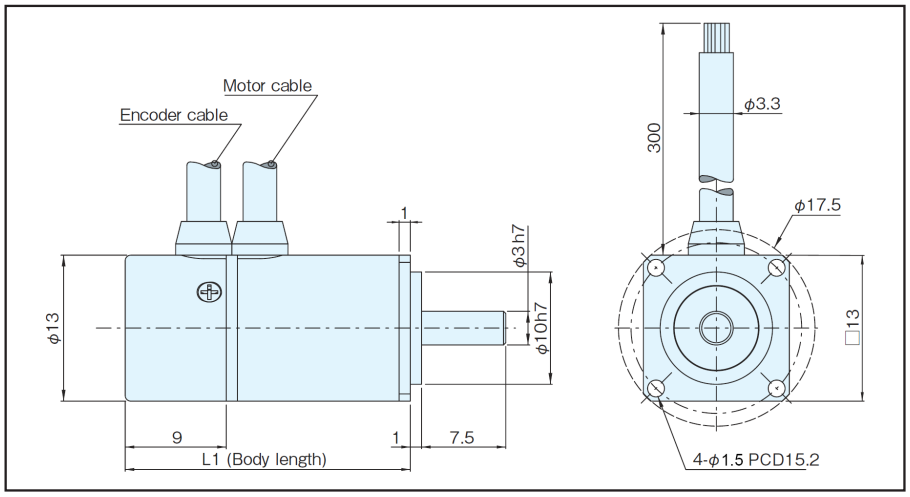
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MDS-13
Miniature AC Servomotor





Features:

- Built-in high-performance encoder that enables direct fine positioning from resolutions of 1 arc/sec.
- Delivers high torque using high-performance magnets and high-density winding technology.
- Small size with motor and encoder as a single unit.
- Able to bear large loads directly due to high stiffness bearing.
- Able to support hollow-shaft structures.

Specifications	Unit	MDS-1306	MDS-1312	MDS-1318
Body Diameter	mm	13		
Body Length	mm	26	32	38
Max Torque	mN•m	7.0	15.0	25.0
Rated Torque	mN•m	3.0	5.0	8.0
Continuous Rated Torque	mN•m	3.0	5.0	7.5
Max Speed	rpm	3000		
Rated Speed	rpm	3000		
Max Encoder Resolution	P/R	Incremental: 500 / Absolute: 2048 (11 bit)		
Input Power (driver input)	DCV	24		
Peak Power	W	2.0	4.0	8.0
Peak Power Rate	kW/s	4.5	13.0	27.0
Peak Armature Current	Arms	2.6		
Rated Armature Current*	Arms	1.1	1.0	
Voltage Constant	V/krpm	0.28	0.61	1.0
Torque Constant (at 25°C)	Nm/Arms	2.7	5.8	9.6
Line Armature Resistance (at 25°C)	Ω	1.1	1.8	2.5
Line Armature Inductance	mH	0.13	0.21	0.39
Rotor Poles	P	8		
Moment of Inertia (J)	g•cm^2	0.11	0.17	0.23
Permissible Radial Load (Fr)	N	20		
Permissible Axial Load (Fa)	N	10		
Load Reference Point Distance (La)	mm	19.7	25.7	31.7
Mass	kg	0.04	0.05	0.06
Standard Heatsink		55 x 55 x 4 Aluminum		

* Rated armature current is the value measured with the standard heatsink attached to the motor at an ambient temperature of 40°C.

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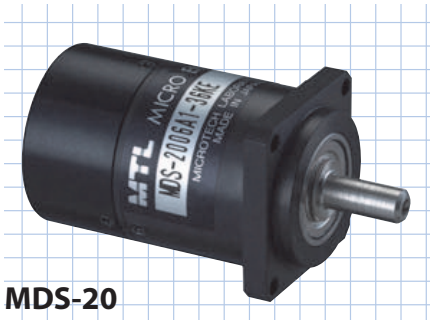
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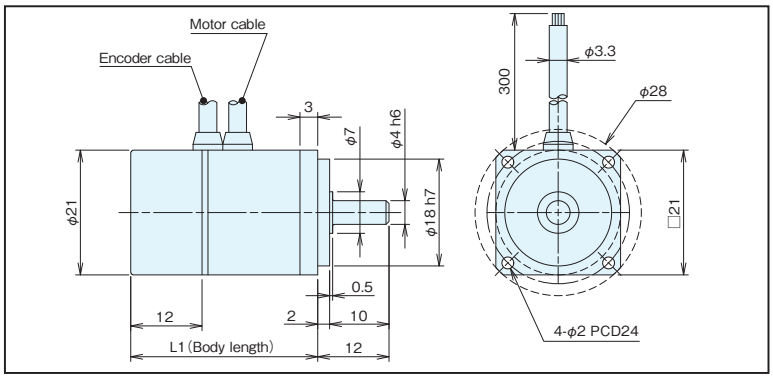
MDS/MDH-20

Miniature AC Servomotor

(S = solid shaft, H = hollow shaft)

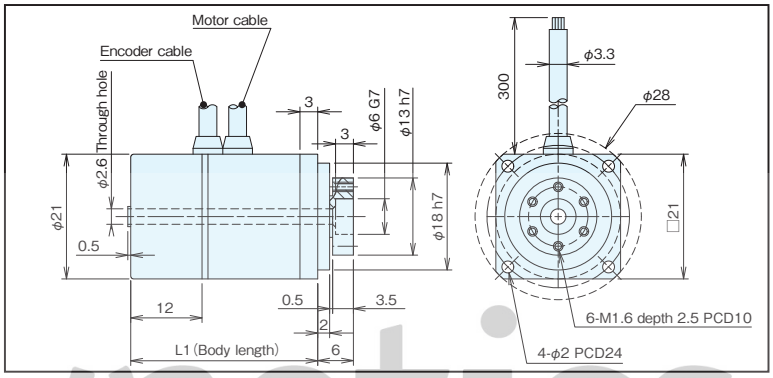


MDS-20





MDH-20



Specifications	Unit	MDS-2006	MDH-2006	MDS-2012	MDH-2012	MDS-2018	MDH-2018
Body Diameter	mm	20					
Body Length	mm	31.5		37.5		43.5	
Max Torque	Nm	0.04		0.09		0.13	
Rated Torque	Nm	0.017		0.030		0.040	
Continuous Rated Torque	Nm	0.014		0.026		0.030	
Max Speed	rpm	3000					
Rated Speed	rpm	1500					
Max Encoder Resolution	P/R	Incremental: 72,000 / Absolute: 262,144 (18 bit)					
Input Power (driver input)	DCV	24					
Peak Power	W	5.0		10		17	
Peak Power Rate	kW/s	19	15	62	43	99	65
Peak Armature Current	Arms	2.6		4.3		5.6	
Rated Armature Current*	Arms	1.1		1.2		1.4	
Voltage Constant	V/krpm	1.6		2.5		2.4	
Torque Constant (at 25°C)	Nm/Arms	0.015		0.024		0.023	
Line Armature Resistance (at 25°C)	Ω	3.5		2.2		1.9	
Line Armature Inductance	mH	1.1		0.79		0.82	
Rotor Poles	P	10					
Moment of Inertia (J)	g•cm²	0.78	1.5	1.2	2.0	1.7	2.4
Permissible Radial Load (Fr)	N	44					
Permissible Axial Load (Fa)	N	22					
Load Reference Point Distance (La)	mm	29.8	28.5	35.7	34.5	41.7	40.4
Mass	kg	0.088		0.10		0.12	
Standard Heatsink		100 x 100 x 5 Aluminum					

* Rated armature current is the value measured with the standard heatsink attached to the motor at an ambient temperature of 40°C.

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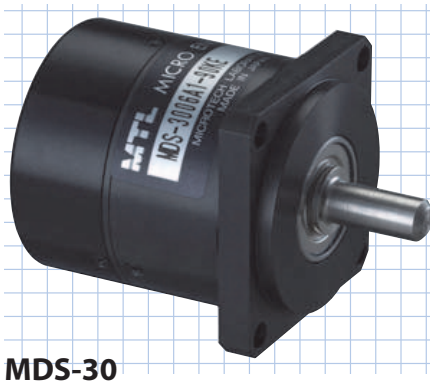
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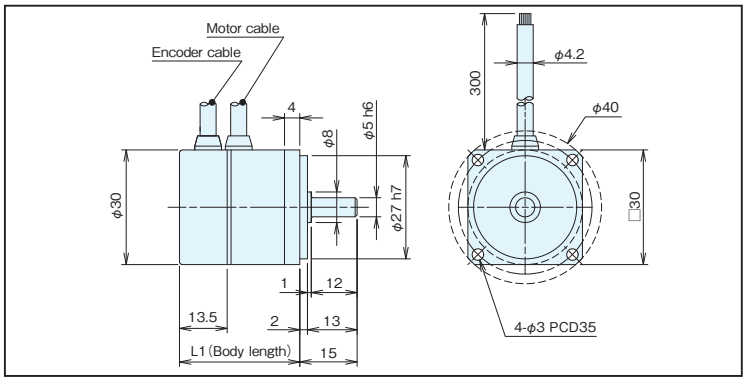
MDS/MDH-30

Miniature AC Servomotor

(S = solid shaft, H = hollow shaft)

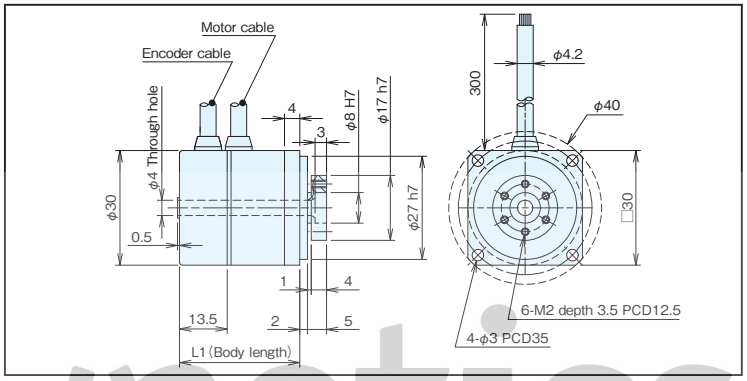


MDS-30





MDH-30



Specifications	Unit	MDS-3006	MDH-3006	MDS-3012	MDH-3012	MDS-3018	MDH-3018
Body Diameter	mm	30					
Body Length	mm	31.5		37.5		43.5	
Max Torque	Nm	0.14		0.28		0.42	
Rated Torque	Nm	0.060		0.095		0.13	
Continuous Rated Torque	Nm	0.044		0.068		0.10	
Max Speed	rpm	1000					
Rated Speed	rpm	1000					
Max Encoder Resolution	P/R	Incremental: 108,000 / Absolute: 524,288 (19 bit)					
Input Power (driver input)	DCV	48					
Peak Power	W	15		20		30	
Peak Power Rate	kW/s	31	23	71	60	110	98
Peak Armature Current	Arms	4.6		5.6		6.3	
Rated Armature Current*	Arms	1.8				1.7	
Voltage Constant	V/krpm	2.8		4.5		6.8	
Torque Constant (at 25°C)	Nm/Arms	0.026		0.043		0.065	
Line Armature Resistance (at 25°C)	Ω	2.1		2.3		2.5	
Line Armature Inductance	mH	1		1.3		1.5	
Rotor Poles	P	16					
Moment of Inertia (J)	g•cm²	6.5	8.9	11.2	13.6	15.9	18.3
Permissible Radial Load (Fr)	N	94					
Permissible Axial Load (Fa)	N	47					
Load Reference Point Distance (La)	mm	32.0	30.0	38.0	36.0	43.9	41.9
Mass	kg	0.13		0.16		0.18	
Standard Heatsink		120 x 120 x 8 Aluminum					

* Rated armature current is the value measured with the standard heatsink attached to the motor at an ambient temperature of 40°C.

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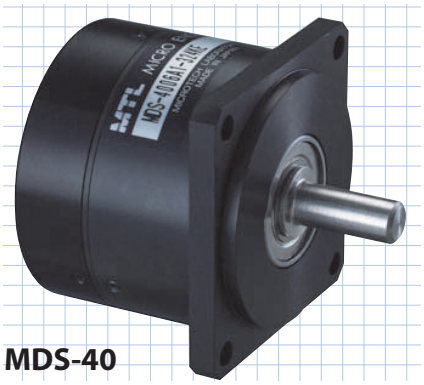
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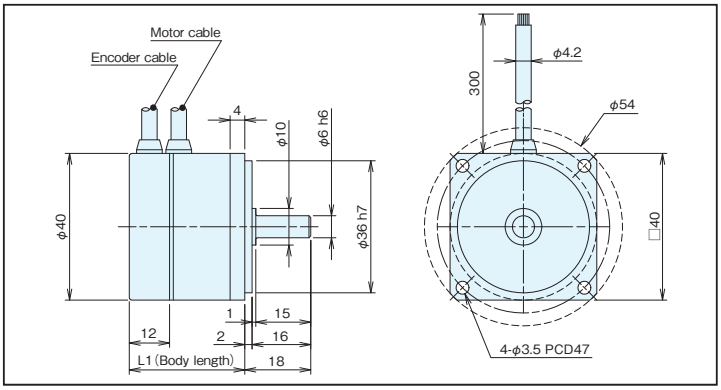
MDS/MDH-40

Miniature AC Servomotor

(S = solid shaft, H = hollow shaft)

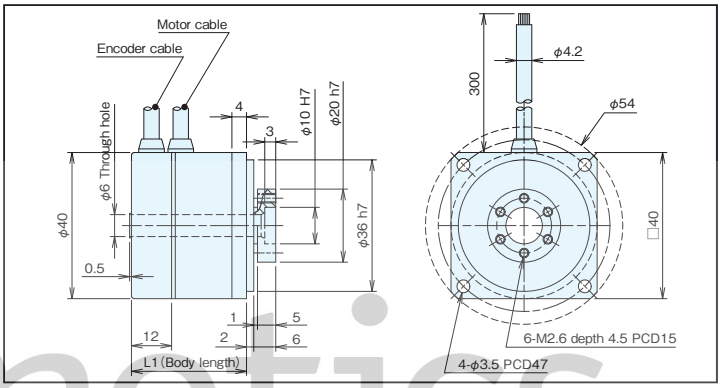


MDS-40





MDH-40



Specifications	Unit	MDS-4006	MDH-4006	MDS-4012	MDH-4012	MDS-4018	MDH-4018
Body Diameter	mm	40					
Body Length	mm	31.5		37.5		43.5	
Max Torque	Nm	0.33		0.70		1.0	
Rated Torque	Nm	0.12		0.20		0.28	
Continuous Rated Torque	Nm	0.10		0.16		0.23	
Max Speed	rpm	450					
Rated Speed	rpm	450					
Max Encoder Resolution	P/R	Incremental: 324,000 / Absolute: 1,048,576 (20 bit)					
Input Power (driver input)	DCV	48					
Peak Power	W	14		27		40	
Peak Power Rate	kW/s	50	39	140	120	180	160
Peak Armature Current	Arms	6.3		7.5		10	
Rated Armature Current*	Arms	1.6		1.7		2.3	
Voltage Constant	V/krpm	6.1		10		11	
Torque Constant (at 25°C)	Nm/Arms	0.058		0.096		0.10	
Line Armature Resistance (at 25°C)	Ω	2.6		2.5		1.7	
Line Armature Inductance	mH	2.6		3.0		2.0	
Rotor Poles	P	16					
Moment of Inertia (J)	g•cm²	22.6	28.8	38.4	44.5	54.2	60.3
Permissible Radial Load (Fr)	N	140					
Permissible Axial Load (Fa)	N	70					
Load Reference Point Distance (La)	mm	37.7	35.2	43.7	41.2	49.6	47.1
Mass	kg	0.21		0.26		0.30	
Standard Heatsink		150 x 150 x 8 Aluminum					

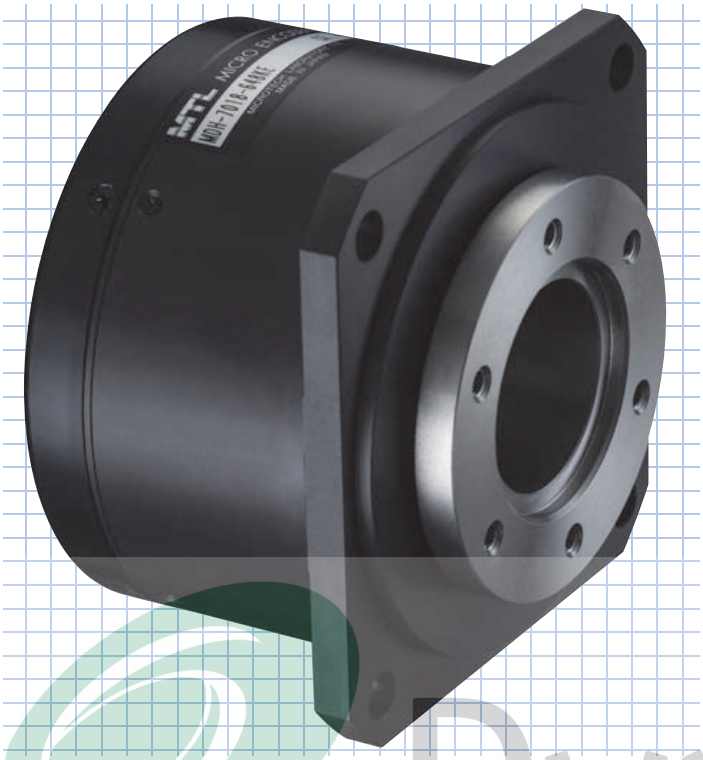
* Rated armature current is the value measured with the standard heatsink attached to the motor at an ambient temperature of 40°C.

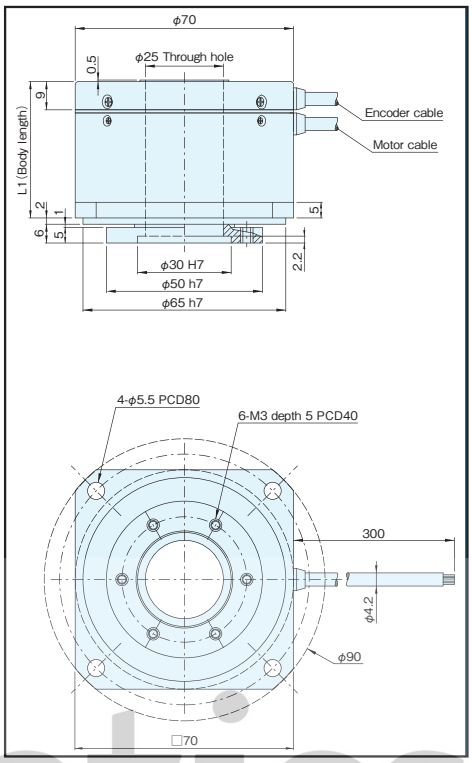
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MDH-70
Miniature AC Servomotor





Specifications	Unit	MDH-7006	MDH-7012	MDH-7018
Body Diameter	mm		70	
Body Length	mm	31.5	37.5	43.5
Max Torque	Nm	1.0	2.2	3.1
Rated Torque	Nm	0.36	0.66	1.0
Continuous Rated Torque	Nm	0.36	0.66	1.0
Max Speed	rpm		200	
Rated Speed	rpm		200	
Max Encoder Resolution	P/R		Incremental: 648,000 / Absolute: 2,097,152 (21 bit)	
Input Power (driver input)	DCV		48	
Peak Power	W	30	60	90
Peak Power Rate	kW/s	24	83	147
Peak Armature Current	Arms	13	16	19
Rated Armature Current*	Arms	2.8	3.0	3.5
Voltage Constant	V/krpm	0.013	0.023	0.031
Torque Constant (at 25°C)	Nm/Arms	0.13	0.22	0.30
Line Armature Resistance (at 25°C)	Ω	2.1	1.9	1.8
Line Armature Inductance	mH	2.6	3.1	3.3
Rotor Poles	P		20	
Moment of Inertia (J)	kg•cm²	0.65	0.82	0.99
Permissible Radial Load (Fr)	N		500	
Permissible Axial Load (Fa)	N		250	
Load Reference Point Distance (La)	mm	27	33	38.9
Mass	kg	0.53	0.65	0.77
Standard Heatsink			225 x 225 x 10 Aluminum	

* Rated armature current is the value measured with the standard heatsink attached to the motor at an ambient temperature of 40°C.

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