

MDS-13 series

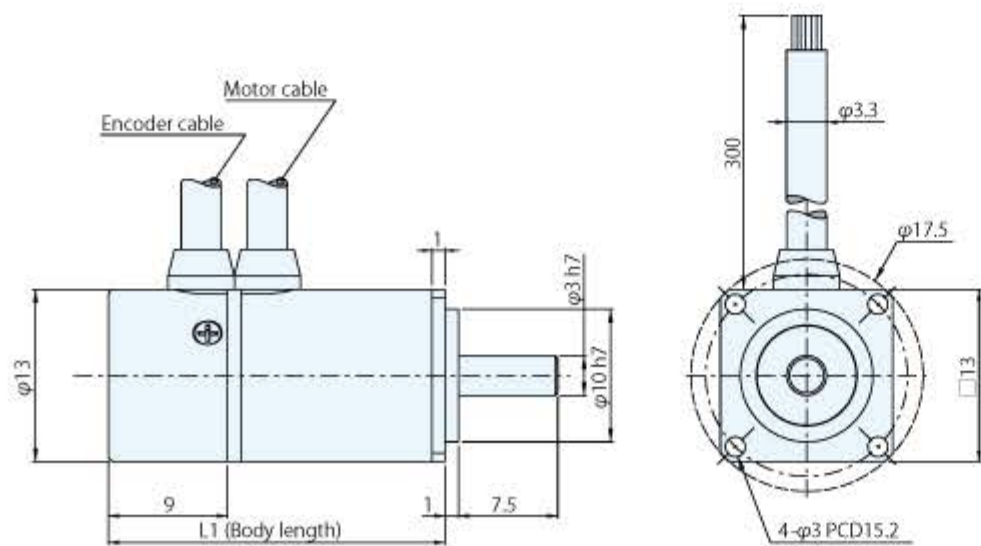


Body diameter: 13mm
Body length: 26 / 32 / 38mm
Max torque: 7 / 15 / 25mN·m
Max speed: 3000rpm

		MDS-1306	MDS-1312	MDS-1318
Body Diameter	mm	13		
Body Length	mm	26	32	38
Peak 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	Absolute: 2048(11bit)		
Input Power (driver input)	DCV	24		
Peak Power	W	2.0	4.0	8.0
Peak Current	Arms	2.6		
Rated Current*	Arms	1.1	1.0	1.0
Rotor Poles	P	8		
Moment of Inertia(J)	kg·m ²	1.18×10 ⁻⁸	1.76×10 ⁻⁸	2.34×10 ⁻⁸
Permissible Radial Load(Fr)	N	20		
Permissible Axial Load(Fa)	N	10		

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

Dimension Guide



Micro Direct Drive Motor

MDS/MDH-20 series



MDS-20



MDH-20

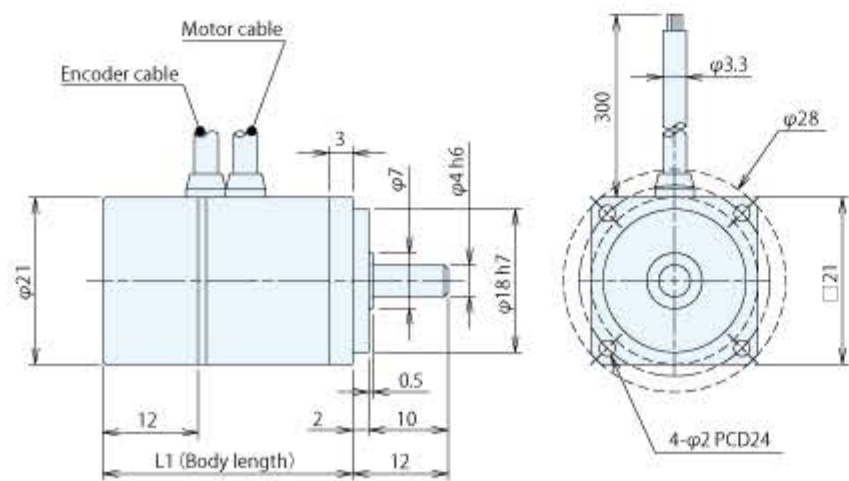
Body diameter: 21mm
Body length: 32 / 38 / 44mm
Max torque: 40 / 90 / 130mN·m
Max speed: 3000rpm
Max resolution: 72,000P/R, 18bit
Hollow diameter: 2.6mm (MDH type)

		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	
Peak Torque	mN·m	0.04		0.09		0.13	
Rated Torque	mN·m	0.017		0.030		0.040	
Continuous Rated Torque	mN·m	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(18bit)					
Input Power (driver input)	DCV	24					
Peak Power	W	5.0		10		17	
Peak Current	Arms	2.6		4.3		5.6	
Rated Current*	Arms	1.1		1.2		1.4	
Rotor Poles	P	10					
Moment of Inertia(J)	kg·m ²	7.83×10 ⁻⁸	1.50×10 ⁻⁷	1.24×10 ⁻⁷	1.95×10 ⁻⁷	1.69×10 ⁻⁷	2.40×10 ⁻⁷
Permissible Radial Load(Fr)	N	44					
Permissible Axial Load(Fa)	N	22					

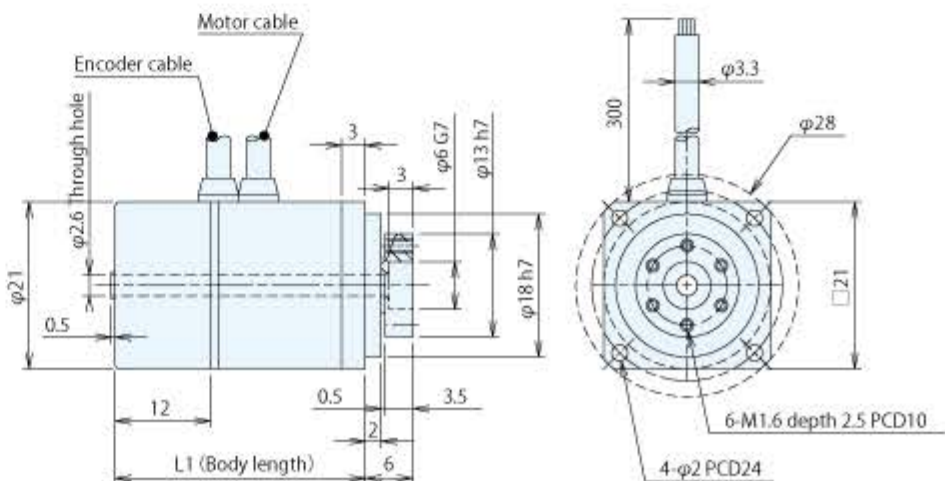
* Rated current is the value measured with the standard heatsink attached to the motor at an ambient temperature of 40°C.

Dimension Guide

MDS-20



MDH-20



MDS/MDH-30 series



MDS-30



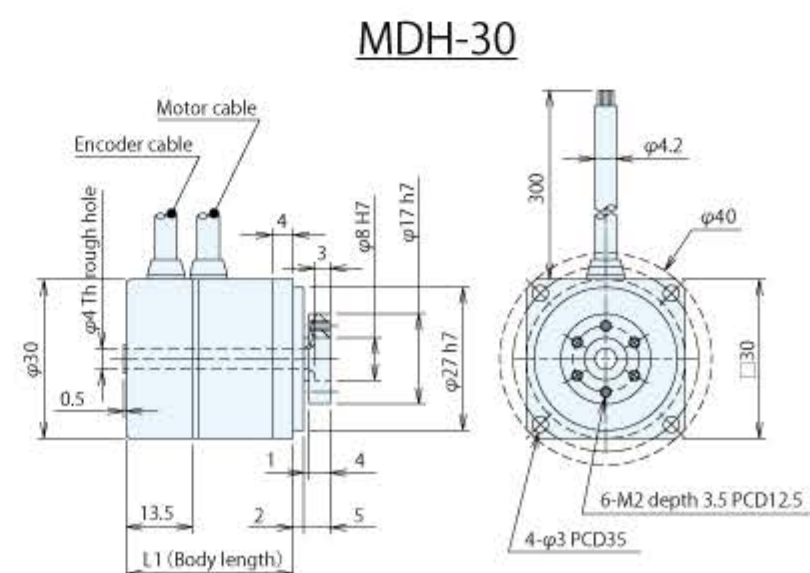
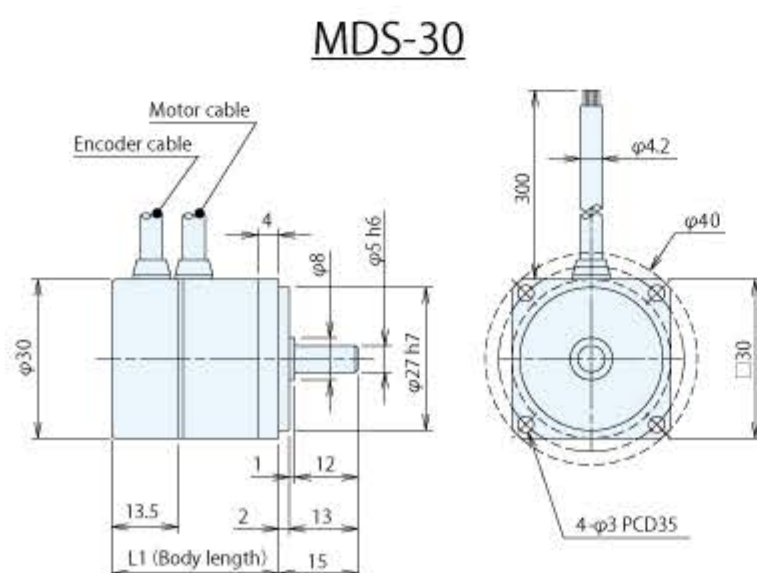
MDH-30

Body diameter: 30mm
Body length: 32 / 38 / 44mm
Max torque: 140 / 280 / 420mN·m
Max speed: 1000rpm
Max resolution: 108,000P/R, 19bit
Hollow diameter: 4mm (MDH type)

		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	
Peak Torque	mN·m	0.14		0.28		0.42	
Rated Torque	mN·m	0.060		0.095		0.13	
Continuous Rated Torque	mN·m	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(19bit)					
Input Power (driver input)	DCV	48					
Peak Power	W	15		20		30	
Peak Current	Arms	4.6		5.6		6.3	
Rated Current*	Arms	1.8		1.8		1.7	
Rotor Poles	P	16					
Moment of Inertia(J)	kg·m ²	6.45×10 ⁻⁷	8.86×10 ⁻⁷	1.12×10 ⁻⁶	1.36×10 ⁻⁶	1.59×10 ⁻⁶	1.83×10 ⁻⁶
Permissible Radial Load(Fr)	N	94					
Permissible Axial Load(Fa)	N	47					

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

Dimension Guide



MDS / MDH / MDH(12)-40 series



MDS-40



MDH-40

Body diameter: 40mm
Body length: 32 / 38 / 44mm
Max torque: 0.33 / 0.70 / 1.0 N·m
Max speed: 450rpm
Max resolution: 324,000P/R, 20bit
Hollow diameter: 6.12mm (MDH type)

MDS-40 series

		MDS-4006	MDS-4012	MDS-4018
Body Diameter	mm	40		
Body Length	mm	31.5	37.5	43.5
Peak Torque	mN·m	0.33	0.70	1.0
Rated Torque	mN·m	0.12	0.20	0.28
Continuous Rated Torque	mN·m	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(20bit)		
Input Power (driver input)	DCV	48		
Peak Power	W	14	27	40
Peak Current	Arms	6.3	7.5	10
Rated Current*	Arms	1.6	1.7	2.3
Rotor Poles	P	16		
Moment of Inertia(J)	kg·m ²	2.33×10 ⁻⁶	2.88×10 ⁻⁶	4.98×10 ⁻⁶
Permissible Radial Load(Fr)	N	140		
Permissible Axial Load(Fa)	N	70		

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

MDH-40 series

		MDH-4006	MDH-4012	MDH-4018
Body Diameter	mm	40		
Body Length	mm	31.5	37.5	43.5
Peak Torque	mN·m	0.33	0.70	1.0
Rated Torque	mN·m	0.12	0.20	0.28
Continuous Rated Torque	mN·m	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(20bit)		
Input Power (driver input)	DCV	48		
Peak Power	W	14	27	40
Peak Current	Arms	6.3	7.5	10
Rated Current*	Arms	1.6	1.7	2.3
Rotor Poles	P	16		
Moment of Inertia(J)	kg·m ²	2.88×10 ⁻⁶	4.45×10 ⁻⁶	6.03×10 ⁻⁶
Permissible Radial Load(Fr)	N	140		
Permissible Axial Load(Fa)	N	70		

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

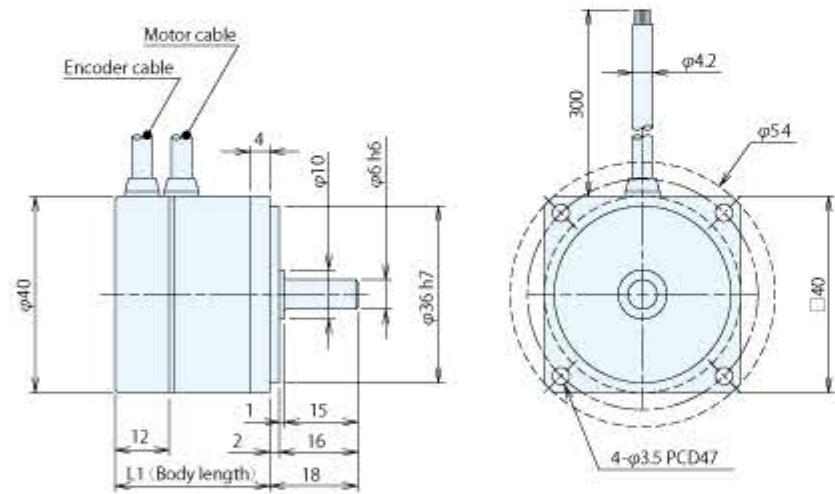
MDH(12)-40 series

		MDH(12)-4006	MDH(12)-4012	MDH(12)-4018
Body Diameter	mm	40		
Body Length	mm	31.5	37.5	43.5
Peak Torque	mN·m	0.33	0.70	1.0
Rated Torque	mN·m	0.12	0.20	0.28
Continuous Rated Torque	mN·m	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(20bit)		
Input Power (driver input)	DCV	48		
Peak Power	W	14	27	40
Peak Current	Arms	6.3	7.5	10
Rated Current*	Arms	1.6	1.7	2.3
Rotor Poles	P	16		
Moment of Inertia(J)	kg·m ²	4.98×10 ⁻⁶	6.46×10 ⁻⁶	7.94×10 ⁻⁶
Permissible Radial Load(Fr)	N	140		
Permissible Axial Load(Fa)	N	70		

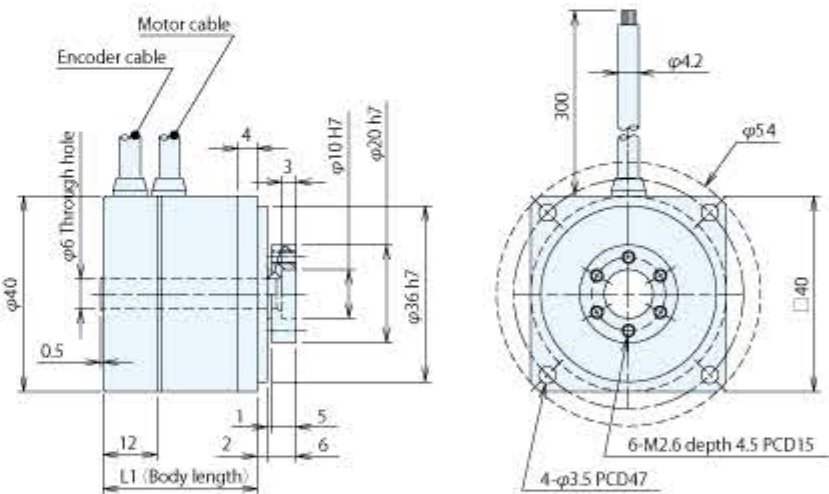
* Rated current is the value measured with the standard heatsink attached to the motor at an ambient temperature of 40°C.

Dimension Guide

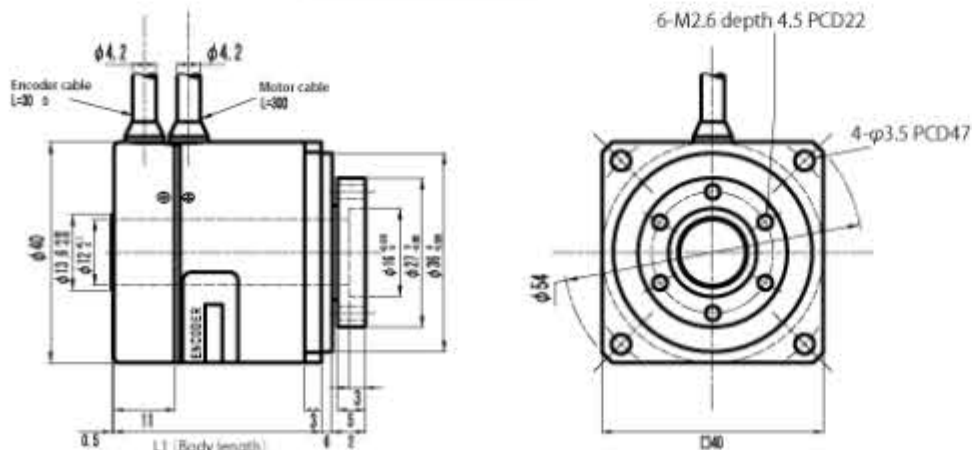
MDS-40



MDH-40



MDH(12)-40



MDH-70 series



Body diameter: 70mm
Body length: 32 / 38 / 44mm
Max torque: 1.0 / 2.2 / 3.1 N·m (with DC48V drive)
Max speed: 200rpm
Max resolution: 648,000P/R, 21bit
Hollow diameter: 25mm (MDH type)

		MDH-7006	MDH-7012	MDH-7018
Body Diameter	mm	70		
Body Length	mm	31.5	37.5	43.5
Peak Torque	mN·m	1.0	2.2	3.1
Rated Torque	mN·m	0.36	0.66	1.0
Continuous Rated Torque	mN·m	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(21bit)		
Input Power (driver input)	DCV	48		
Peak Power	W	30	60	90
Peak Current	Arms	13	16	19
Rated Current*	Arms	2.8	3.0	3.5
Rotor Poles	P	20		
Moment of Inertia(J)	kg·m ²	6.55×10 ⁻⁵	8.24×10 ⁻⁵	9.92×10 ⁻⁵
Permissible Radial Load(Fr)	N	500		
Permissible Axial Load(Fa)	N	250		

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

Dimension Guide

