Rotary servomotor with Built-in Encoder, .Turntable-type direct-drive motor

MRS-70



Nippon Pulse

has provided a wide array of motion control solutions, including industry leading stepper motors, the innovative Linear Shaft Motor, controllers, drivers and networks.

A wide range of product offerings and expertise in application engineering makes NPM a discerning partner in motion control technology and implementation

Miniature AC servomotor with high torque and high-resolution

Delivering a lineup with a wide range of application options of compact high-performance next-generation servo motors with built in encoders.

the servo motor has high acceleration and positioning,suitable in using as gearless.

The motor has characterristics of low speed and high torque (compared to general servo motors) because this motor is assumed that it will drive directry without using a gear(a deceleration mechanism).The integrated sensor realize high-precision positioning, and able to receive a direct load on the shaft by adopting high-load bearing as standard.

advantages:

- silent: since it has no vibraition sound.
- High precision: positioning by eliminating a machanical error due to backlash.
- Weight and space saving
- Improving acceleration
- feedback for master-slave control.
- that can be generally obtained by using a gearless structure

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The world's smallest servo motor of all hollow-shaft type.It is ideal for end effectors (hand, gripper, Zθ unit) and also small robot hands with a combination of low reduction ratio gears.

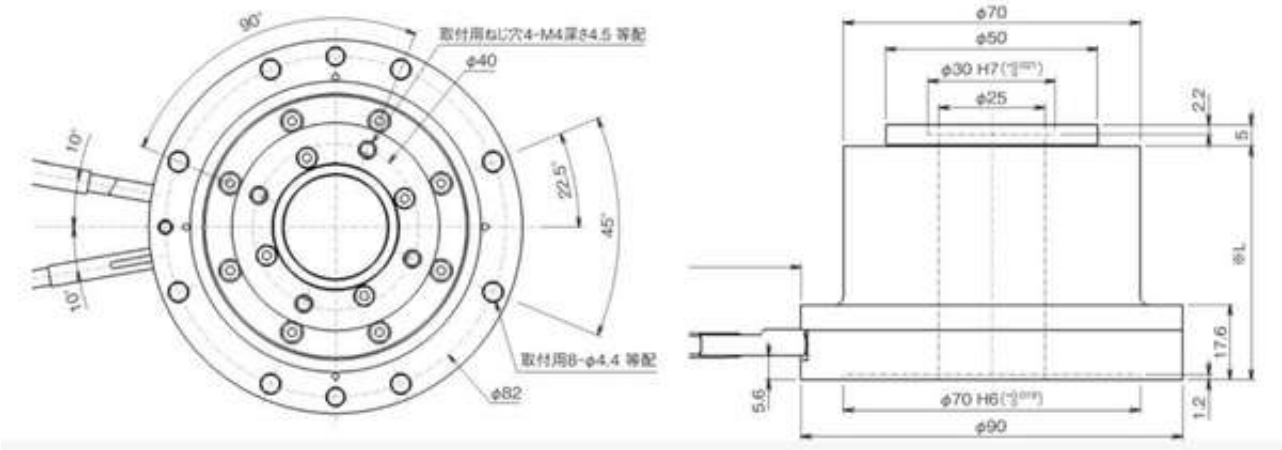
Example specifications

- Built-in absolute encoder (11 to 21 bits)
- Built-in electromagnetic encoder
- Hollow shaft structure
- Design with customized speed and torque characteristics
- Ripple reducing design (torque/speed)
- Clean room ready

Application examples

- Gearless structures
- High precision positioning applications
- turn table

Images



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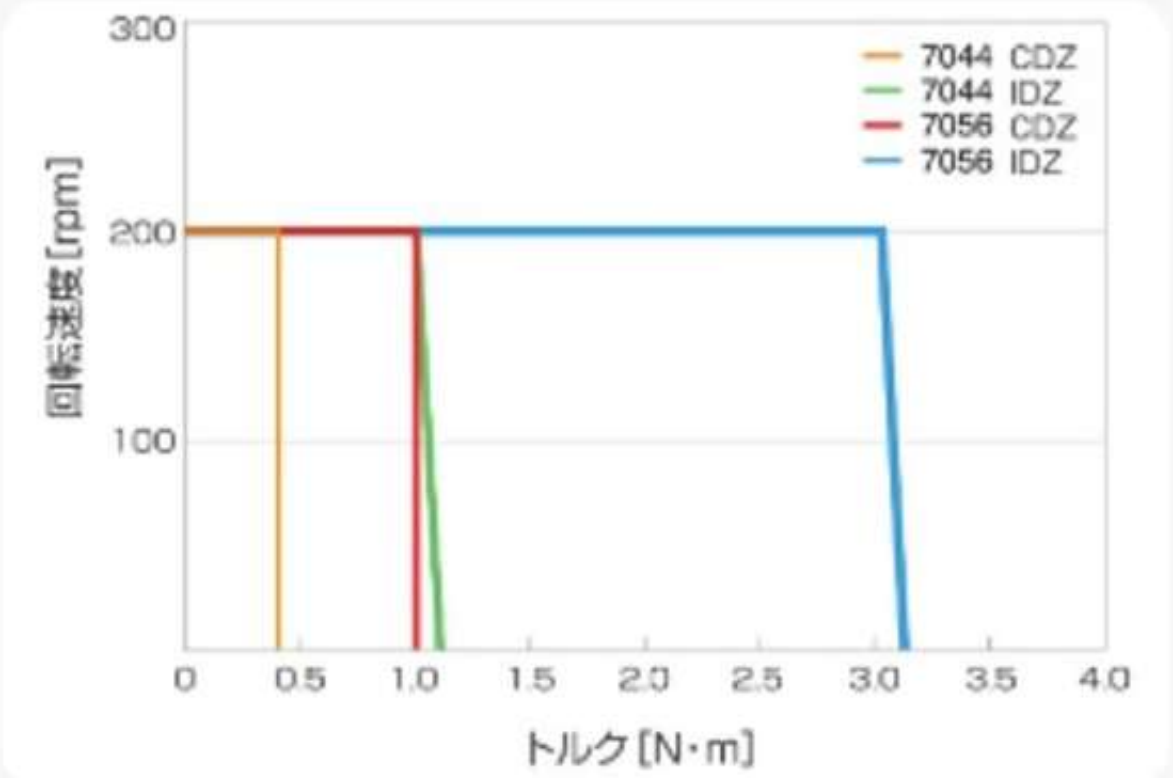
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MRS-7056



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Details

MRS-70 Rotary servomotor with Built-in Encoder,Turntable-type direct-drive motor

MRS-7056		
Supply voltage (driver input)	24 (※1) / 48	DCV
Max speed (※2)	200	rpm
Rated speed	100	rpm
Peak torque	3.1	Nm

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Continuous stall torque	1.0	Nm
Continuous rated torque	1.0	Nm
Peak output	90	W
Peak power rate	147	kW/s
Peak current	19	Arms
Continuous rated current (※3)	3.5	Arms
Back EMF constant	31	V/krpm
Torque constant (at 25℃)	0.30	Nm/Arms
Winding resistance (line-to-line, 25℃)	1.8	Ω
Winding inductance (line-to-line)	3.3	mH
Rotor poles	20	P
Max encoder resolution (※4)	Incremental: 2,592,000 P/R	P/R
	Absolute: 2,097,152 (21 bit)	
Moment of inertia ($J=GD^2/4$)	1.16	$kg \cdot cm^2$
Allowable axial load	500	N
Allowable moment	3	Nm
Bi-directional repeatability	±1	pulse
Axial runout	20 (standard)	μm
	5 (high-precision option: add “R” to model)	
Mass	0.86	kg
Recommended drivers	MC-200-7220 / MC-200C-6018	
	Other collaboration amplifiers: SVR-K3412R	
Reference heat sink	225 × 225 × 10 aluminum	

- (※1) At 24 V, peak torque differs. Please contact us.
- (※2) If you require a specific target speed, please contact us.
- (※3) Continuous rated current measured at 40℃ ambient with the reference heat sink attached to the motor.
- If you need a different resolution, please contact us.

Driver:

Manufacturer	Driver (amplifier) model	Interface	Power	Features
MTL	MC-200-7220A	Pulse train, USB	DC24/48 V	Compact general-purpose
	MC-200-7220B	EtherCAT, USB	DC24/48 V	Compact general-purpose

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	MC-200-7220D	SPI, USB	DC24/48 V	Compact general-purpose
	MC-200C-6018D	SPI, USB	DC24/48 V	Ultra-compact
Mitsubishi Electric	MR-J4-40A-RJJ001	Pulse train	AC200 V	Collaboration-specific
	MR-J4-60A-RJJ001			
	MR-J4-40B-RJJ001	SSCNET III/H	AC200 V	Collaboration-specific
	MR-J4-60B-RJJ001			
Panasonic	MMDHT2B09NL1	RTEX	DC48 V	Compact
	MCDLT35NM	RTEX	AC200 V	Multi-function
	MCDLT35BM	EtherCAT	AC200 V	Multi-function

Specifications

This PDF-document has been generated from a selection of the available details from the manufacturer. In case the contents of the PDF-file is incomplete or difficult to read, we apologize for the inconvenience and ask you to contact us (info@dynetics.eu)

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