

Large Spindle Motor Suited to Large Size Machine Tools

# FANUC

## LARGE SPINDLE MOTOR

### $\alpha$ *i* series



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## FANUC LARGE SPINDLE MOTOR $\alpha i$ series

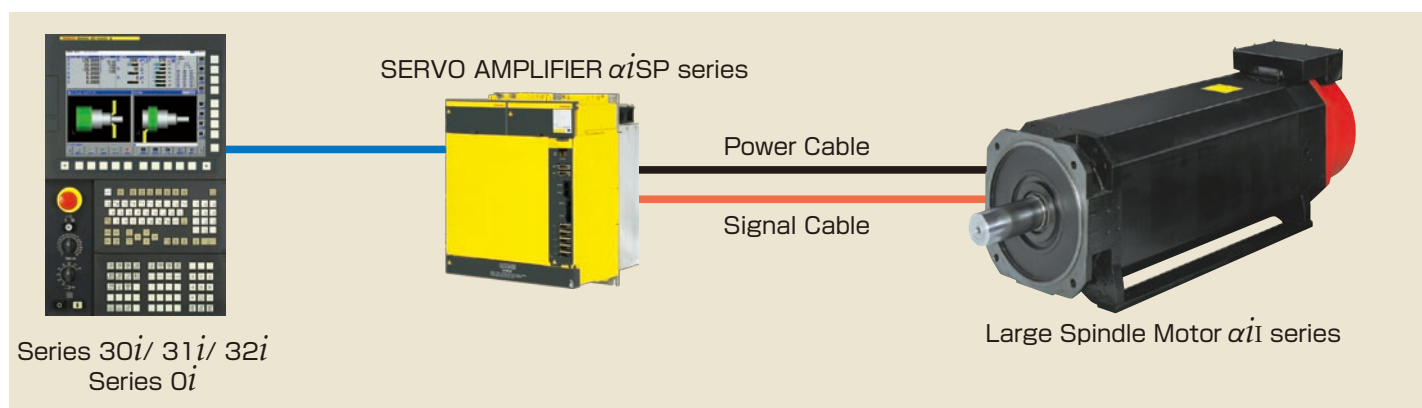
### Features

- Various motor models with continuous rated output from 30kW to 200kW
- Further output enabled by “Multi Motors Drive Technology”
- High energy-saving system with “Power source regeneration” to convert kinetic energy to electric energy at deceleration and return to power source

## FANUC LARGE SPINDLE MOTOR $\alpha i$ series

### Features

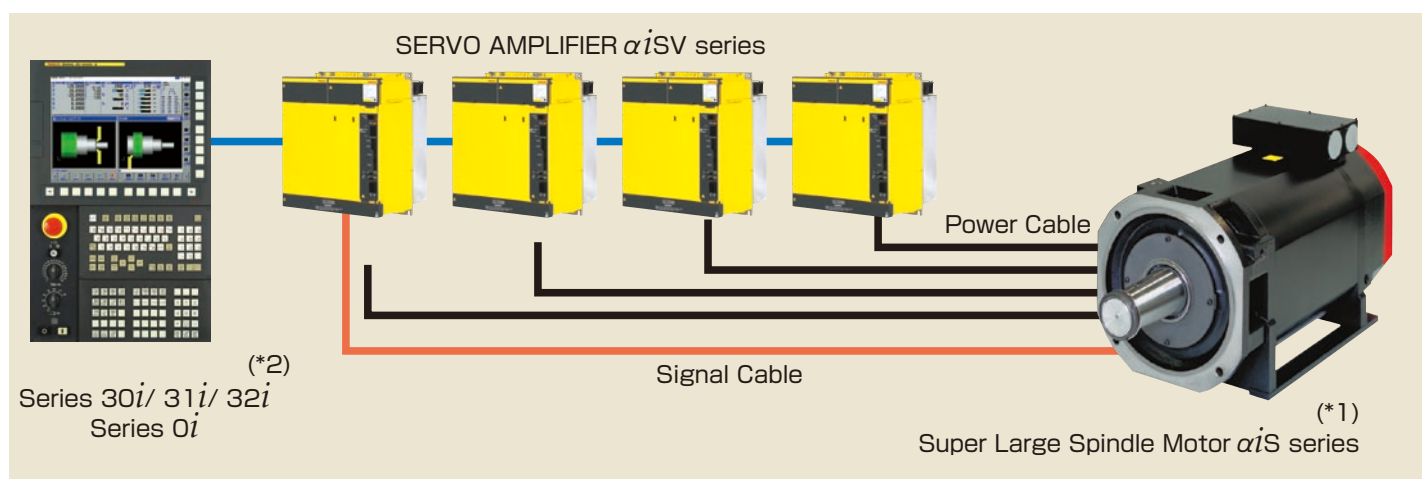
- High power up to high speed by optimum winding design and effective cooling structure
- Lower motor temperature by optimum control of magnetic flux



## FANUC LARGE SPINDLE MOTOR $\alpha i$ S series

### Features

- High power and large torque models suited to large size machine tools
- Compact and large torque achieved by neodymium magnets



\*1)  $\alpha i$ S 2000HV is driven by servo axis using “Spindle control with servo motor function” .

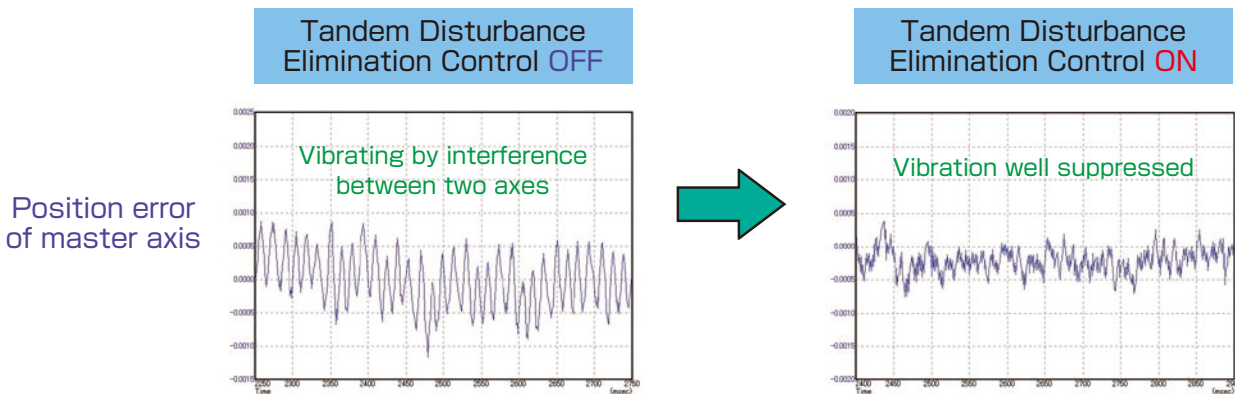
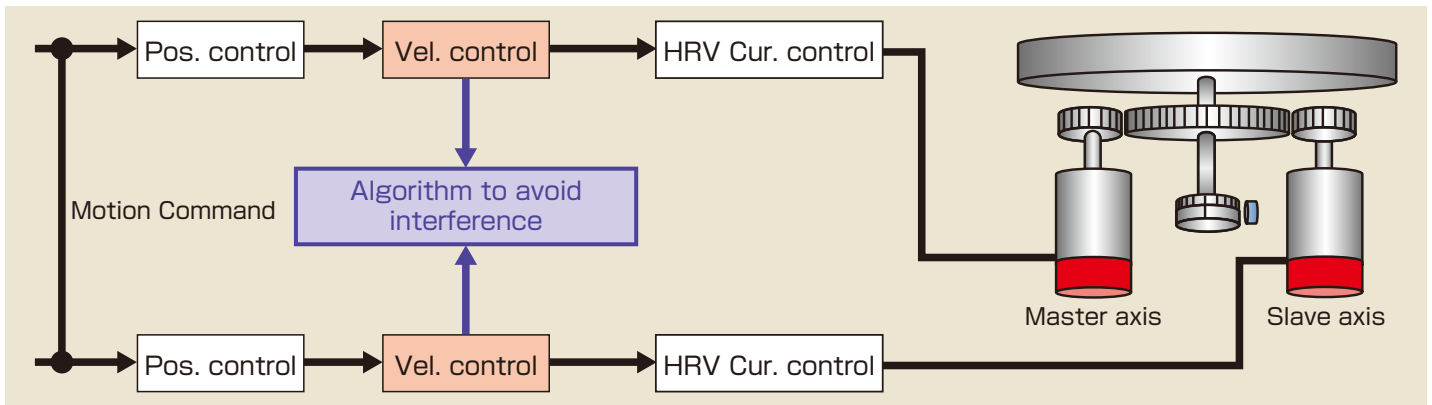
As for detail, please refer to specification manual of CNC.

\*2) Tandem Control is applied for combination with Series 30i/31i/32i.

PWM Distribution Module (PDM) is necessary for combination with Series Oi.

## Control Technologies (HRV Control)

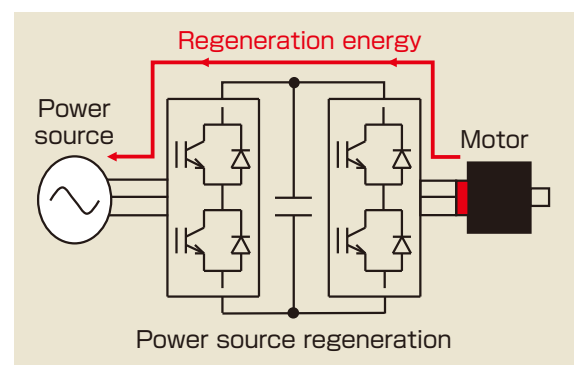
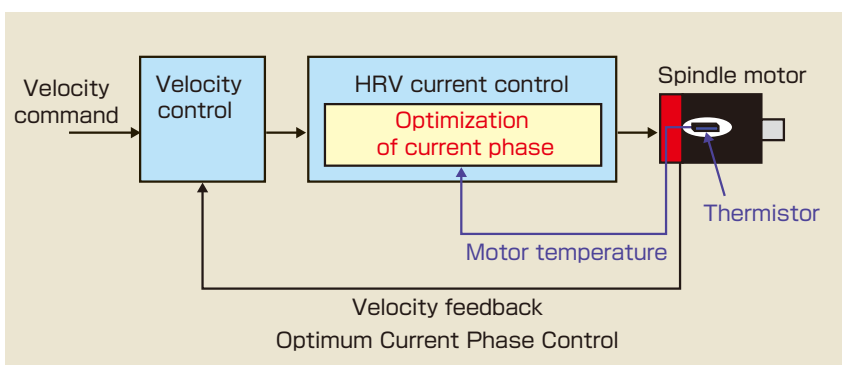
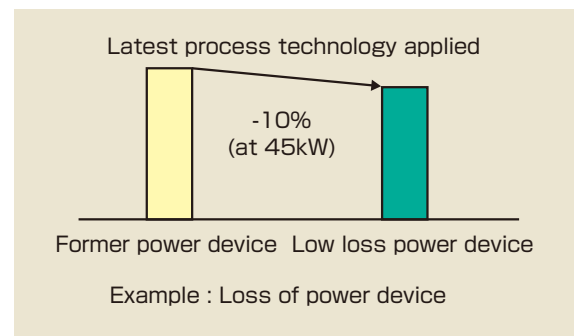
- FANUC Control technology (HRV Control) with many achievements on spindle control, applied to large spindle system
- Further output achieved by synchronous control of plural motors for one spindle with keeping stability



Example : Effect of Tandem Disturbance Elimination Control

## Energy Saving Technologies

- Loss of amplifier reduced by applying the latest power device
- Power consumption largely reduced by Power source regeneration compared with resistor discharge
- Minimum current achieved by Maximum Efficiency Control, with optimizing ratio of excitation current and torque current according to load
- High efficiency spindle control achieved by Optimum Current Phase Control, according to motor temperature



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Inquiries : Yamanakako-mura, Yamanashi,  
Japan 401-0501

Phone : 81-555-84-6030  
Fax : 81-555-84-5540



## FANUC CORPORATION

•Headquarters Oshino-mura, Yamanashi 401-0597, Japan  
Phone: 81-555-84-5555 Fax: 81-555-84-5512 <http://www.fanuc.co.jp>

• America and South America  
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Tel 352-727777-1  
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Tel 7-495-956-9780  
Fax 1-847-898-5001  
Fax 55-11-3856-0848  
Fax 352-727777-202  
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Fax 33-1-6989-7001  
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