

Built-in Spindle Motor achieving
high performance machine tool spindle

FANUC

BUILT-IN SPINDLE MOTOR **B1-B** series



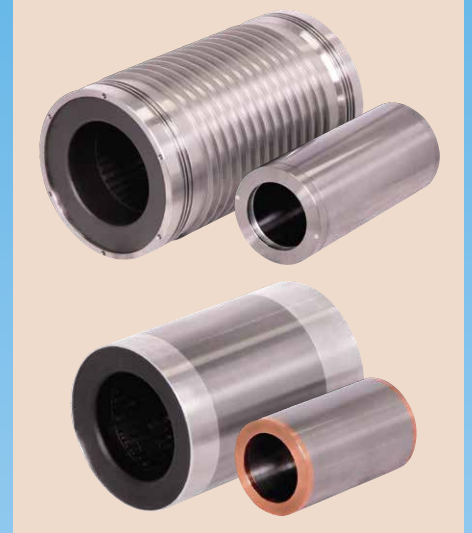
Built-in Spindle Motor achieving high performance machine tool spindle

FANUC BUILT-IN SPINDLE MOTOR **Bⁱ-B** series

FANUC BUILT-IN SPINDLE MOTOR **BⁱI-B** series

Features

- **BⁱI-B** series offers high power up to high speed range and is suitable for every kind of machine tool spindle.
- Large torque at low speed and high power at high speed achieved by speed range control
- Suitable model available for every kind of machine tool spindle from a wide range of line-up
- High response, high precision, high efficiency and lower motor loss achieved by Spindle HRV Control
- Larger torque and higher power due to efficient heat radiation of stator resin mold (Option)
- Stator with or without cooling jacket selectable for stator resin mold
- Even larger torque and higher power with copper-bar rotor (Some models)
- Water cooling available in addition to conventional oil cooling
- S6 short-time rated output equal to S3 available due to FANUC original spindle control



FANUC BUILT-IN SPINDLE MOTOR **BⁱS-B** series

Features

- **BⁱS-B** series has two types of motor: IPM type (interior magnet) is suitable for turning with large torque at low speed and SPM type (surface magnet) is suitable for milling with high speed rotation.
- Compact size and large torque achieved with strong neodymium magnets
- Low torque ripple achieved by optimizing magnetic circuit design
- High speed and high power achieved by using Sub Module SM
- Larger torque and higher power due to efficient heat radiation of stator resin mold
- Stator with or without cooling jacket selectable for stator resin mold
- Water cooling available in addition to conventional oil cooling



System configuration

FANUC SERVO AMPLIFIER

αi -B series/ βi -B series



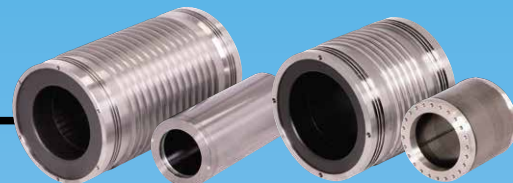
Sub Module SM
(only **βi S-B** series)



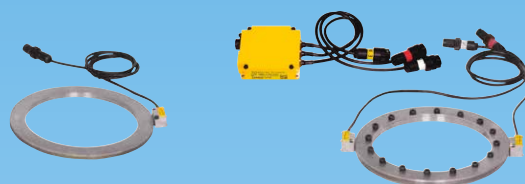
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BUILT-IN SPINDLE MOTOR

βi I-B series/ **βi S-B** series



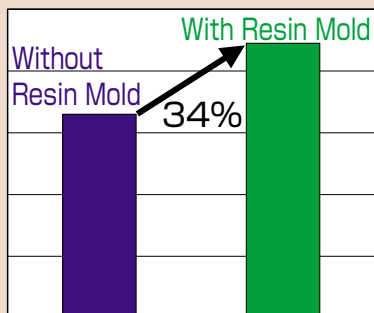
αi BZ SENSOR / αi cz SENSOR



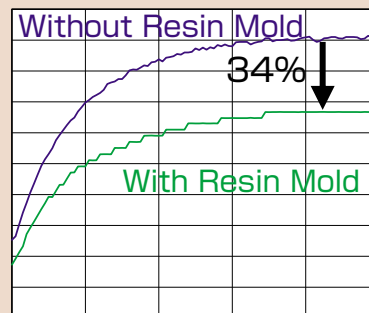
Stator resin mold (**βi I-B** series : Option, **βi S-B** series : Standard)

- Larger torque, higher power or lower temperature rise due to efficient heat radiation of stator resin mold (Necessary to increase chiller capacity)

[Example]



Continuous rated output

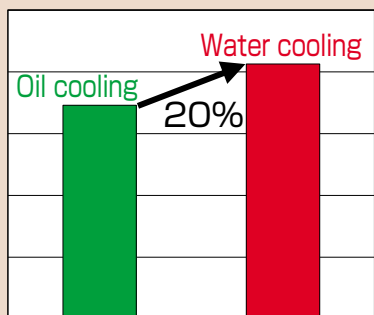


Temperature rise at the same output

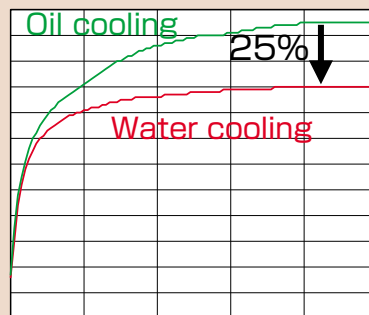
Output specification with water cooling

- Larger torque, higher power or lower temperature rise due to higher the heat removal with water cooling (Necessary to increase chiller capacity)

[Example]



Continuous rated output

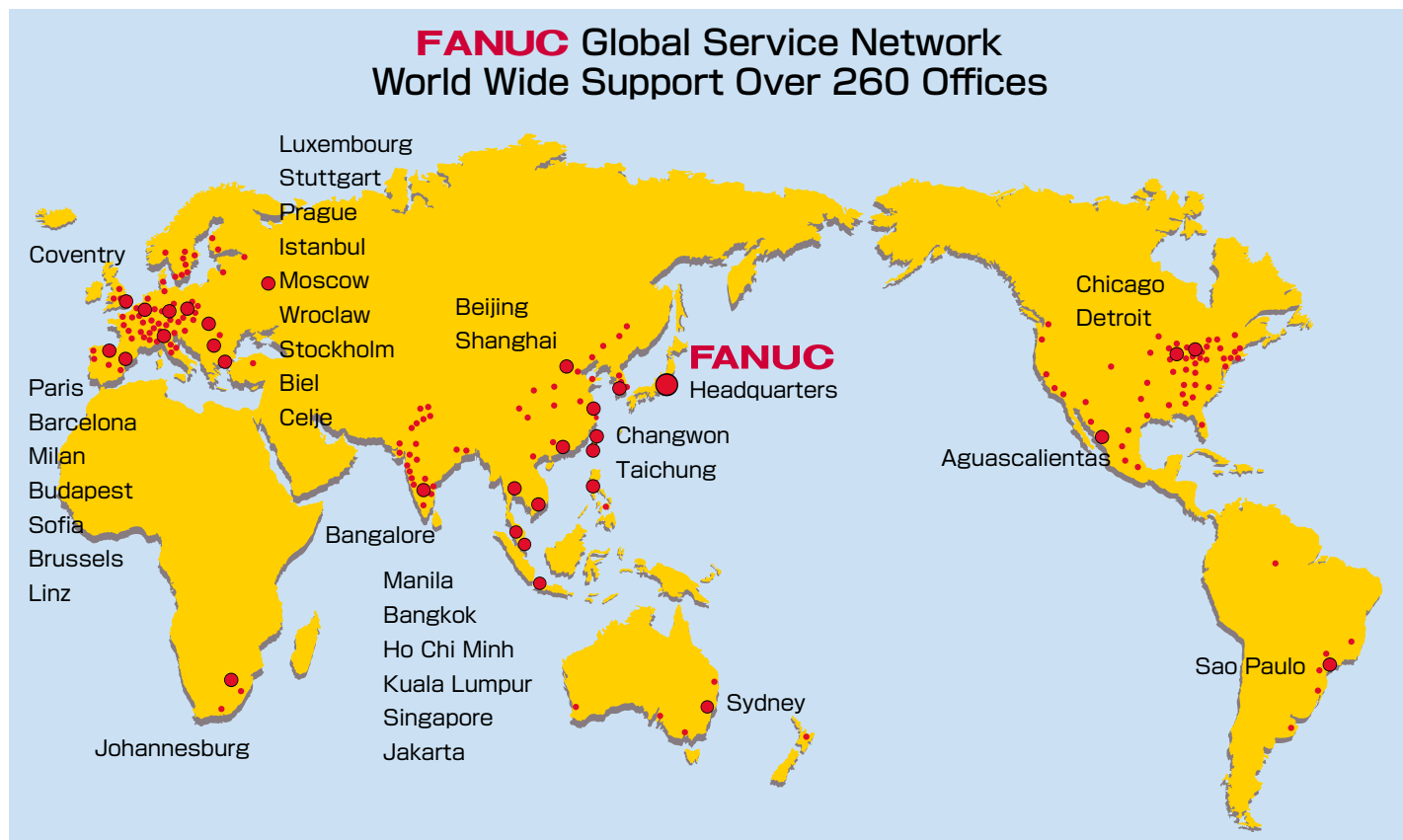


Temperature rise at the same output

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FANUC ACADEMY

FANUC ACADEMY operates versatile training courses to develop skilled engineers effectively in several days.

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