

Spindle specifications

Type	Power-JET				Speed-JET		
							
Pressure (bar)	15	20	40	70	20	30	40
Flow (ℓ/min)	10	12	16	22	10	15	20
Speed (rpm)	20,000	25,000	35,000	45,000	33,000	44,000	55,000
Torque (Nmm)	20	27	57	93	12	18	25
Power (W)	53	71	188	409	37	76	115

Allowable Tool Diameter by Application (mm)

Type	Power-JET				Speed-JET			
Application	P	M	N (Al)	S (Ti)	P	M	N (Al)	S (Ti)
Drilling	Ø3		Ø4	Ø3	Ø2		Ø3	Ø2
Slotting	Ø6	Ø4	Ø6	Ø4	Ø4	Ø3	Ø4	Ø3
Profiling	Ø6				Ø6	Ø4	Ø6	Ø4
Shouldering					Ø4	Ø6		

AAA Ultra-Precision ER Spring Collet

For high accuracy of 0.003 mm and stable tool life, the AAA ultra-precision ER spring collet is recommended.

Item. no	Designation	Shank dia (mm)
623402E	ER11 SPR EX3.0AAA	Ø3.0
623403E	ER11 SPR EX4.0AAA	Ø4.0
623404E	ER11 SPR EX6.0AAA	Ø6.0

※ Collets should be ordered separately.

B.O.M.

Number	Item	Designation
❶	Spindle	TJS PJET/SJET ...
❷	ER nut	NUT ER 11 GHS
❸	ER wrench	WRENCH ER11 SMS
❹	Lock key	TJS SHAFT LOCK KEY
❺	Wrench	HW 2.0

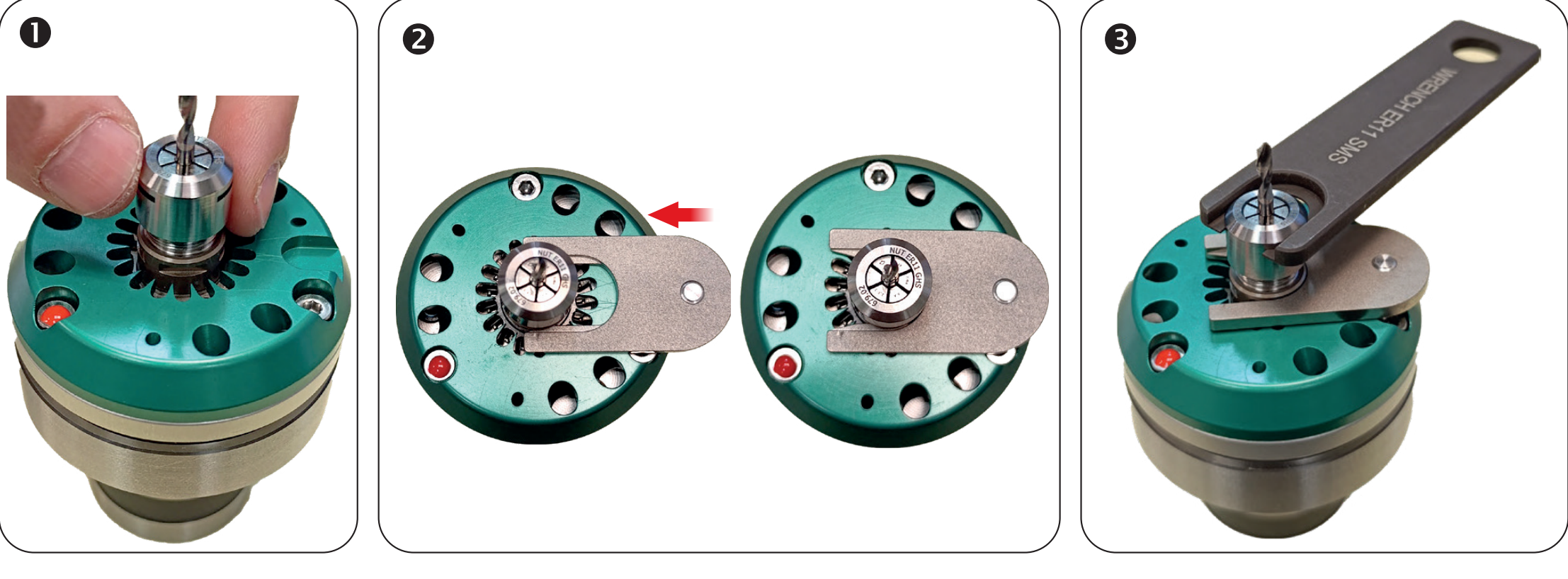


※ The CR2 battery for the sensor and the ER11 collet for tool clamping should be ordered separately.

Tool Clamping

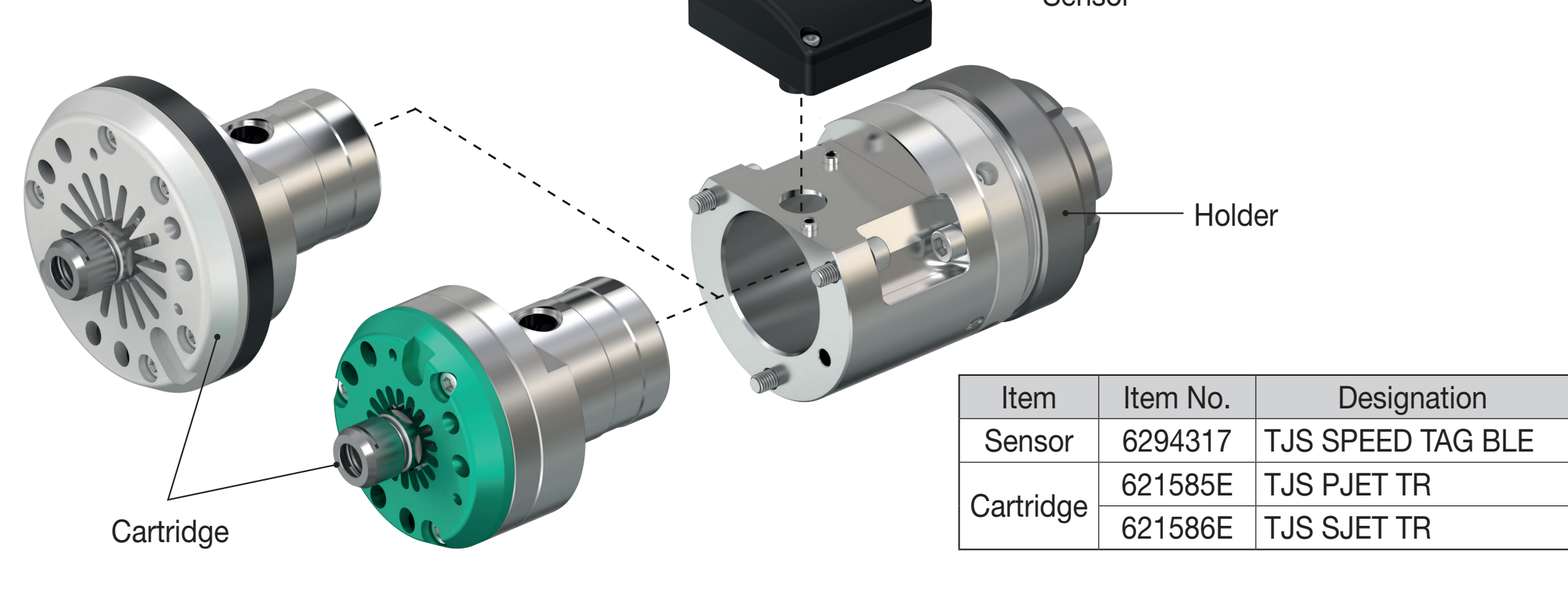
First, make sure the collet and clamping area are clean.

- ❶ Insert the collet with the tool into the spindle, then hand-tighten the ER nut.
- ❷ Align the lock key with the slot and slide it toward the shaft to lock the shaft in place
- ❸ Turn the ER wrench clockwise to securely tighten the ER nut. (recommended tightening torque: 9 Nm)



Quick and Effortless Module Replacement

The sensor and cartridges can be quickly replaced on-site for efficient maintenance.



Item	Item No.	Designation
Sensor	6294317	TJS SPEED TAG BLE
Cartridge	621585E	TJS PJET TR
	621586E	TJS SJET TR

Cartridge Replacement

- ❶ Loosen the sensor unit bolts, then remove the cover and sensor body.



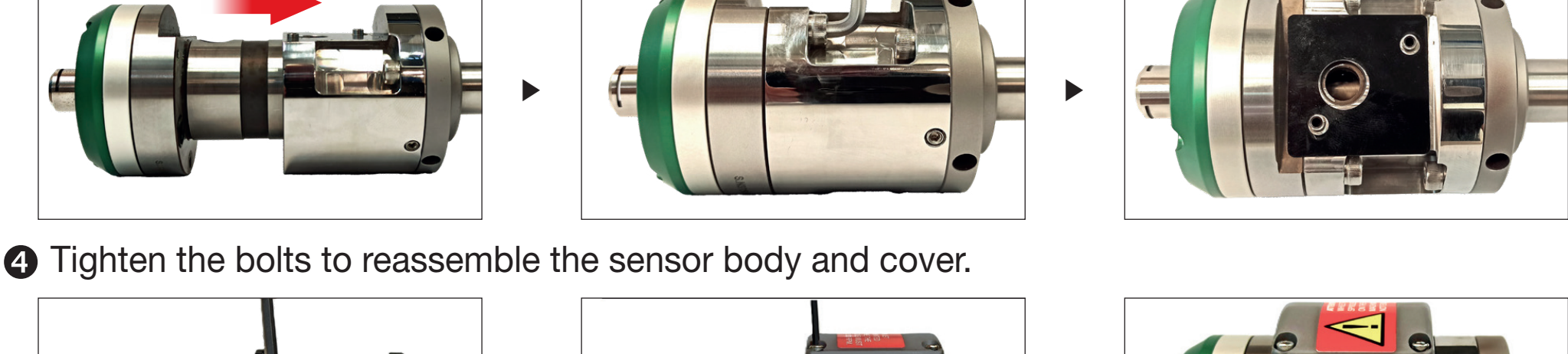
- ❷ Loosen the cartridge fixing bolts and remove the cartridge.



- ❸ Install the replacement cartridge in the correct orientation and securely tighten the mounting bolts.



- ❹ Tighten the bolts to reassemble the sensor body and cover.



Spindle Speed (rpm) Management

Due to the characteristics of coolant-driven high-speed spindles, spindle speed may decrease under load during machining. To prevent excessive load and maximize spindle life, it is recommended to monitor spindle speed using the dedicated mobile app and follow the “10% rule.”

※ What is the “10% Rule”?

Adjust cutting conditions so that spindle speed does not drop by more than 10% from its idle speed during machining.

Example: If the idle speed is 40,000 rpm, maintain a machining speed of 36,000 rpm or higher.

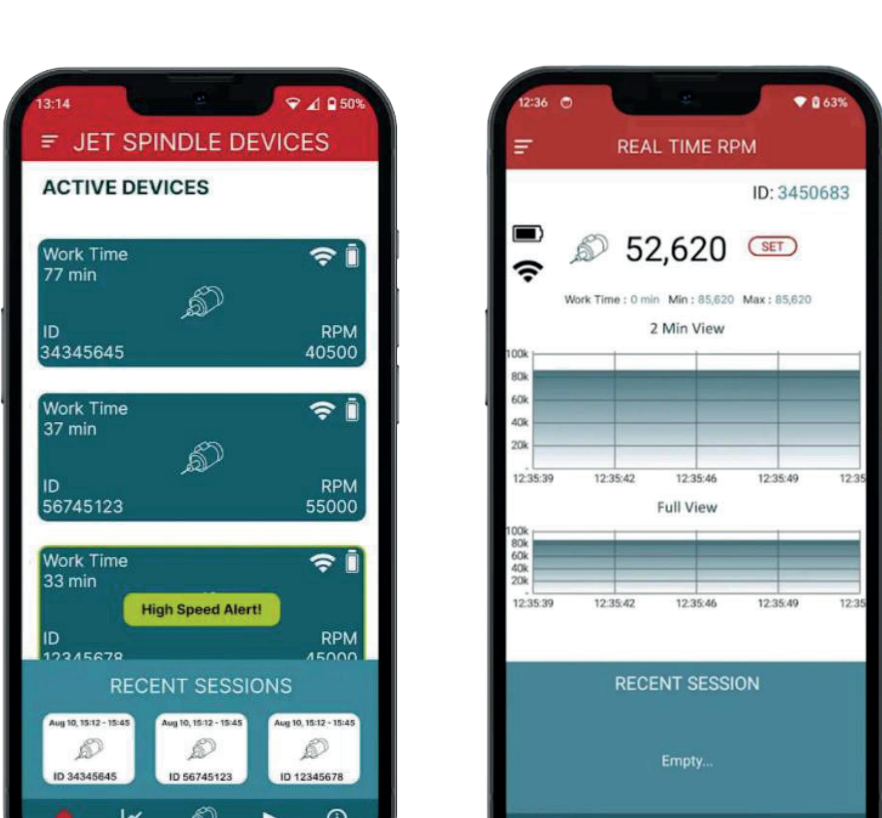


Jet Spindle Monitor App Features

- Connects to multiple spindles within a 10-meter range
- Provides real-time tracking of spindle speed (rpm)
- Delivers detailed information on each spindle, including sensor battery status
- Verifies compliance with the recommended operating range using the “10% Rule” feature

How to Install and Use the App

- 1. Scan the QR code to install the Jet Spindle Monitor app.
- 2. Open the Jet Spindle Monitor app.
- 3. Start the machine's high-pressure coolant system.
- 4. Select the active spindle in the app to view detailed information.
- 5. Check the spindle speed (rpm) and adjust cutting conditions as needed.



Requirements

- 1. Machine with an internal coolant system
- 2. Machine spindle coolant pressure range: 15–70 bar
- 3. Minimum coolant flow rate: 10 ℓ/min
- 4. Minimum coolant filtration level: 100 μm
- 5. Active mist collector
- 6. When using emulsion coolant, add an anti-foaming agent to prevent foaming
- 7. When using oil-based coolant, use an anti-dissolution additive suitable for oil
- 8. Maximum viscosity: 15 mm²/s
- 9. After coolant or filter replacement, operate the pump for 10 seconds with the spindle removed

Main spindle orientation lock

When the TYPHOON is mounted on the machine, the machine spindle must remain locked. To prevent spindle rotation during TYPHOON operation, input the appropriate M-code to lock the spindle orientation.

Example: The “M19” code locks the spindle in a defined angular position.

Angular head spindle setup

- 1. Ensure the machine spindle is securely locked.
- 2. For quick and accurate setup, use a hydraulic chuck or a sealed ER collet.

