TJS GJET ER32 s.N 373599061 RIII



New Generation SPINJET GREEN LINE High Speed Compact Spindle Replaces Existing SPINJET Spindles



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Highlights

Following the success of SPINJET products - coolant driven high speed compact spindles for small diameter tools - ISCAR is introducing the SPINJET-GREEN LINE (TJS GJET) family of high speed spindles. The new family is a step ahead in developing advanced small-sized spindles operated by the coolant supply system of a machine tool.

Features

- A broad range of output rotational speed: 35000-55000 rpm
- A new improved bearing system:
 - New bearing system design
 - Increased number of bearings: 3 bearings inside vs. 2 in SPINJET TJS 20K, 30K and 40K spindles
 - New bearing seal
 - New bearing lubricant featuring greater viscosity and additive agents
- A new shaft lock mechanism

Due to the new design features, SPINJET-GREEN LINE spindles ensure the following advantages:

- Rotational speed range meets most required values
- Bearing system design minimizes risk of overload and fluid penetration to considerably increase spindle reliability, resulting in significantly improved tool life
- New shaft lock mechanism enables a simple and secure way of mounting a cutting tool in the spindle

General Data

Operating Data	Model: SPINJET-GREEN LINE
Operating range of coolant pressure [PSI]	290-580 [20-40 bar]
Operating range of coolant flow rate [gal/min]	2.64-5.28 [10-20 l/min]
Rotational spindle speed [rpm]*	35000- 55000
Optimum outting tool diameter finable	Drilling: .0196"157" [0.5-4 mm]
Optimum cutting tool diameter [inch]	Milling: .0039"138" [1-3.5 mm]
Maximum tool shank diameter [inch]	.275" [7 mm]

Notes

- Rotational spindle speed is based on coolant pressure and flow rate
- · Coolant pressure is measured from the spindle inlet



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Strategic Advantages:

Cutting Tools:

- Small cutting tools (dia. .0196-.157 inch [0.5-4 mm])
- Small cutting tools at high speeds enable precision while reducing tool wear

Applications

- Milling, drilling, thread milling, engraving, chamfering, deburring, fine radial grinding
- Operation: Finishing and semi-finishing operations

Flexibilities:

- CNC machines: milling centers / turning / turn mills / tap mills
- Suitable for most adaptor types + lathe turret mounting

Economical Advantages

- Upgrades existing CNC machine to a high speed milling (HSM) performer at a fraction of the cost of dedicated high speed machines
- Boosts productivity shortens production time and cuts costs
- Quick ROI
- Simple and easy to integrate no pre-installation or external feed lines
- Compact no size restriction due to added parts or power feeds, fits ATC or turret
- Cuts utility costs such as compressed air and electricity
- Uses the machine's own coolant as a pressurized power source

Industrial Sectors

Serves important industries worldwide:

- Die & Mold
- Medical
- Energy
- Automotive
- Aero space
- 3D Printing
- General Industry



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New Shaft Lock Mechanism

Shaft lock flag key has been replaced by a "GJET" shaft lock key

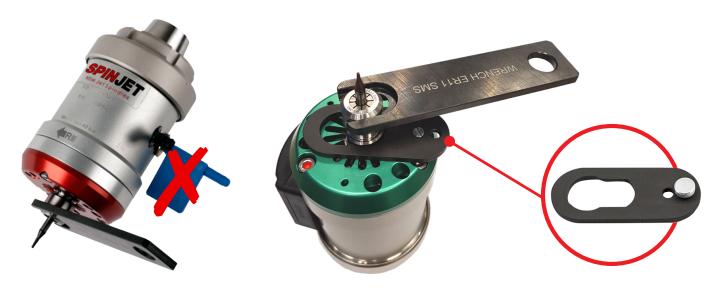


Fig.1. Shaft lock in old SPINJET spindle

Fig.2. Shaft lock in new SPINJET-GREEN LINE

Machine tool requirements for using SPINJET-GREEN LINE spindles

- 1. Coolant flow through the machine spindle
- 2. Min. coolant pressure at the spindle outlet: 290 psi (20 bar).
- 3. Max. coolant pressure at the spindle outlet: 580 psi (40 bar).
- 4. Min. flow rate: 3.17 gal/min. (12 l/min).
- 5. Coolant filtration level: max. 3940 µinch.

Operating Tips

- 1. When operating the **SPINJET-GREEN LINE** spindles, monitoring rotational speed is critical. A correctly set rotational speed ensures optimal machining conditions and avoids damaging the spindle.
- 2. Cutting speed depends on workpiece material and its hardness, the shape of a machined surface, a machining strategy and cutting tool geometry. Refer to cutting tool manufacturer's documentation.
- 3. Dramatic fluctuations of the rotational speed (rpm) operation can indicate problems such as an inadequate coolant pressure or a broken cutting tool.



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Operating Tips

Using Precision ER11 Collets

When using ER11 spring collets, it is recommended to use only high quality precise collets that are engineered for maximum accuracy and tool life.



Max. collet runout (TIR) - 5 μm

Example of Cutting Feeds:

		Cutting Tool Diameter		z	Ap - Depth of Cut		Ae - Width of Cut			Fz too	
Application	Material	mm	inch	(Teeth)	mm	inch	mm	inch	RPM	mm	inch
Milling Full Slot	Aluminum SI 9% 30 HB	End Mill Ø 2.0	End Mill Ø .080	2	0.3	.012	2.0	0.080	40,000	0.01	.0004
Million Charles	H13 (40-42Hrc)	End mill Ø 1.5	End mill Ø .059	2	1.0	.04	0.3	.012	35,000	0.008	.0003
Milling Shoulder	St 52-3 (A 36)	End mill Ø 1.0	End mill Ø .040	2	0.5	.020	0.1	.004	40,000	0.005	.0002

To maximize SPINJET-GREEN LINE spindle tool life, we recommend following the "10% rule":

The working rotational speed (rpm) should drop by up to 10% of the rotational speed (rpm), which is registered at 'idle speed'.

Keeping this rule ensures reducing axial and radial load on the internal mechanism.

To register idle rotational speed:

- 1. Install the **SPINJET-GREEN LINE** spindle carrying a cutting tool into the machine.
- 2. Start the spindle rotation by turning on the fluid supply at required pressure and find the idle RPM speed by reading the display monitor of the spindle.



Fig.3. Example illustrating "10% rule"



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General instructions for storage:

The **SPINJET-GREEN LINE** spindles do not require specific periodic maintenance; however the following instructions should be followed before storing a spindle:

- 1. Clean the spindle by air blowing for 10-15 seconds.
- 2. Max. air pressure for cleaning is 30 psi (2 bar). The rotational speed during cleaning must not exceed 50000 rpm.
- 3. After cleaning, disconnect the spindle from the display device.
- 4. Place the spindle in its original packaging box and store it in the appropriate place.

*** New Warranty Policy

Warranty policy for new SPINJET-GREEN LINE spindles:

At least 300 hours of use or 12 months from the date of invoice, whichever comes first.

Warranty policy for repaired / refurbished SPINJET-GREEN LINE spindles: At least 200 hours of use or 6 months from the date of invoice, whichever comes first.



SPINJET-GREEN LINE Compact and Powerful



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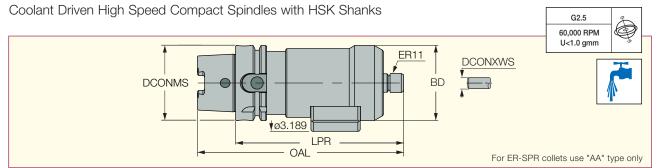
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TJS-GJET-HSK A63



Designation	DCONMS	LPR	OAL	BD	DCONXWS ⁽¹⁾	
TJS GJET HSK A63	2.480	5.551	6.811	2.480	.276	3.97

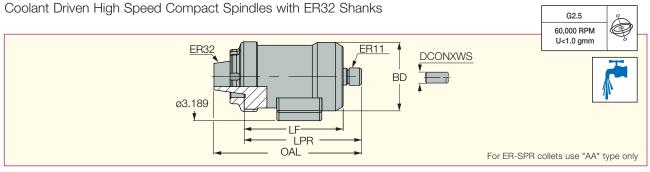
[•] Minimum coolant pressure 290 psi and flow rate 3.17 GPM • The spindle provides only external strong coolant jet around the tool

⁽¹⁾ Maximum tool shank diameter

Spare Parts		<i>*</i>	/		
Designation	Mini ER Nut	ER Wrench	Key	Shaft Lock Key	Display
TJS-GJET-HSK A63	NUT ER11 GHS	WRENCH ER11 SMS	HW 2.0	TJS SHAFT LOCK KEY GJET	TJS TSD DISPLAY*

^{*} Optional, should be ordered separately

TJS-GJET-ER32



Designation	LF	LPR	OAL	BD	DCONXWS ⁽¹⁾	Lbs
TJS GJET ER32	3.622	4.291	5.354	2.480	.276	2.87

[•] Minimum coolant pressure 290 psi and flow rate 3.17 GPM • The spindle provides only external strong coolant jet around the tool

⁽¹⁾ Maximum tool shank diameter

Spare Parts		<i>*</i>	/		
Designation	Mini ER Nut	ER Wrench	Key	Shaft Lock Key	Display
TJS-GJET-ER32	NUT ER11 GHS	WRENCH ER11 SMS	HW 2.0	TJS SHAFT LOCK KEY GJET	TJS TSD DISPLAY*

^{*} Optional, should be ordered separately



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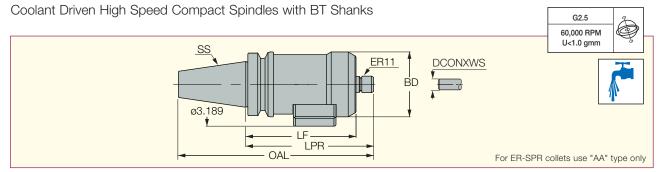
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TJS-GJET-BT



Designation	SS	LF	LPR	DCONXWS ⁽¹⁾	BD	OAL	Lbs
TJS GJET BT30	BT30	4.882	5.551	.276	2.480	7.441	3.53
TJS GJET BT40	BT40	4.213	4.882	.276	2.480	7.441	3.97

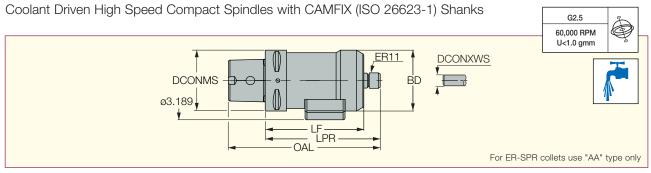
Minimum coolant pressure 290 psi and flow rate 3.17 GPM
The spindle provides only external strong coolant jet around the tool

⁽¹⁾ Maximum tool shank diameter

Spare Parts		<i>J</i>	/		
Designation	Mini ER Nut	ER Wrench	Key	Shaft Lock Key	Display
TJS-GJET-BT	NUT ER11 GHS	WRENCH ER11 SMS	HW 2.0	TJS SHAFT LOCK KEY GJET	TJS TSD DISPLAY*

^{*} Optional, should be ordered separately

TJS-GJET-C#



Designation	DCONMS	LF	LPR	DCONXWS ⁽¹⁾	OAL	BD	Lbs
TJS GJET C5	1.968	4.409	5.079	.276	5.079	2.480	3.31
TJS GJET C6	2.480	4.016	4.685	.276	4.685	2.480	3.53

[•] Minimum coolant pressure 290 psi and flow rate 3.17 GPM • The spindle provides only external strong coolant jet around the tool

⁽¹⁾ Maximum tool shank diameter

S	pare Parts	6			<i>y</i>	/
	Designation	Shaft Lock Key	Display	Mini ER Nut	ER Wrench	Key
	TJS-GJET-C#	TJS SHAFT LOCK KEY GJET	TJS TSD DISPLAY*	NUT ER11 GHS	WRENCH ER11 SMS	HW 2.0

^{*} Optional, should be ordered separately



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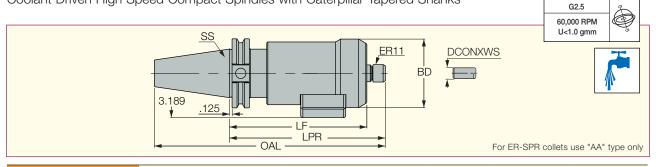
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SPINJET GREEN LINE

TJS-GJET-CAT

Coolant Driven High Speed Compact Spindles with Caterpillar Tapered Shanks



Designation	SS	LF	LPR	BD	OAL	DCONXWS ⁽¹⁾	Lbs
TJS GJET CAT40	40	5.000	5.433	2.480	8.11	.276	4.41

[•] Minimum coolant pressure 290 psi and flow rate 3.17 GPM • The spindle provides only external strong coolant jet around the tool

⁽¹⁾ Maximum cutting tool diameter

Spare Parts			<i>J</i>	/
Designation	Shaft Lock Key	Mini ER Nut	ER Wrench	Key
TJS-GJET-CAT	TJS SHAFT LOCK KEY GJET	NUT ER11 GHS	WRENCH ER11 SMS	HW 2.0





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Activating Spindle Warranty

Registration:

Each IMC office / dealer will get a dedicated "dash board" for their SPINJET product line (similar to My Matrix) with a full view of their customers and product history, providing a fast response to inquiries, plus top quality product service and repairs.

The product management interface includes:

- a. Number of units
- b. Serial numbers
- c. To whom the product was sold
- d. Sale date
- e. Warranty (active / not active)
- f. Service history

Registration for Customers:

When the product is officially registered, it not only activates the warranty but also entitles the end user to receive many important product support features:

- Product ATP
- Online Training & Documentation
- Product Management Interface
- Help & Technical Support Services

The warranty can be activated easily either by registering online at reg.colibri-jet.com or by scanning the QR code.





