

# SPINJET

www.tungaloy.com

Tungaloy Report No. 428-G

**Transform** existing machine into a  
**high-speed machine!**



**INDUSTRY 4.0**  
*FEED the SPEED!*



ACCELERATED MACHINING



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Productivity quadruples due to spindles that rotate at **high speed with coolant pressure**

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## Coolant-driven HSM spindle for high productivity with small diameter tools on limited RPM machines

- SpinJet utilizes the machine tool's existing coolant supply, driven by a high pressure pump as an energy source to rotate a turbine at high speeds.
- Strong coolant jet flow provides extended tool life and machining stability.

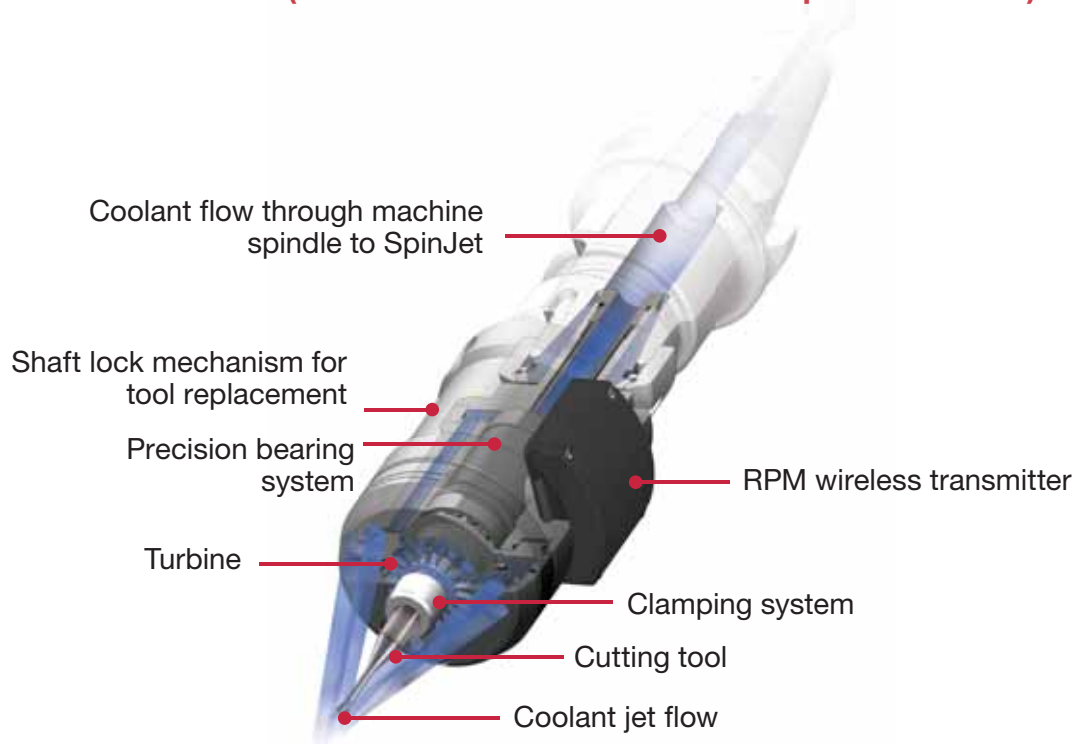
## No operator intervention

The light-weight and compact design allows a perfect fit into the ATC or tool magazine, ideal for un-manned, mass production lines.

## Energy saving

Tools rotate only with coolant pressure, and the machine spindle is idle while SpinJet is in operation.

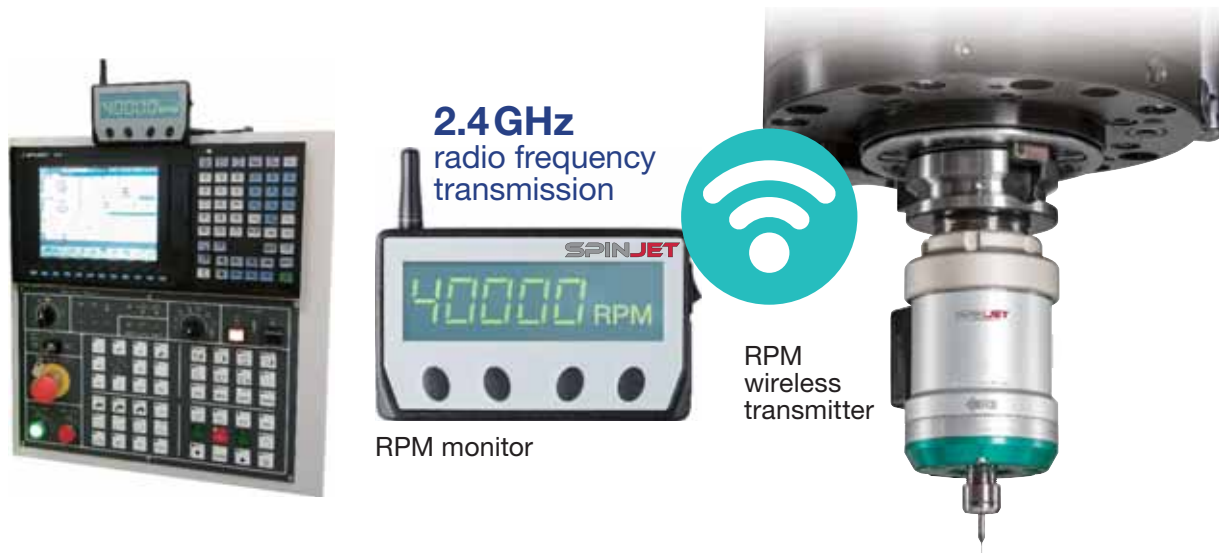
**Note: The main machine spindle should be stationary while the SpinJet spindle is mounted on the machine. (Use correct M-code to lock the spindle rotation).**



## Wireless RPM monitoring system

SpinJet is equipped with an online speed display system, monitoring the actual cutting tool rotation speed during machining.

(Direct wireless rotational speed monitoring in a range of up to 5 meters.)



## Specifications

Features	<b>SPINJET</b> (Green)
Coolant pressure: P (MPa)	2 - 4
Min. flow rate: Q (l/min)	12 - 20
No. of revolution: <i>n</i> (RPM)	35,000 - 55,000
Tool dia: $\phi D_c$ (mm)	Drill: 0.5 - 2
	Milling: 1.5 - 3.5
Max. shank dia: $\phi D_s$ (mm)	7

These are approximate RPM values depending on coolant pressure, flow rate, and type.

## Discontinuation of SpinJet TJS...K models (the yellow, red, and blue models)



TJS...K BT30/40...  
TJS...K DIN69871 40...  
TJS...K CAT40...

TJS...K ER32...

TJS...K ST20...

TJS...K HSK A63...

TJS...K C5/6...

- As of December 28, 2018, all orders for these models are not accepted.
- As of December 31, 2020, all services and support including repairs and spare part sales will end.

## Applicable on a wide variety of machines

SpinJet is available in several adaptation types.

### ■ Types of adaptations



TJSGJETBT30/40



TJSGJETER32



TJSGJETST20



TJSGJETHSKA63



TJSGJETC5/C6

## Improved machining efficiency on various types of machines

Suitable for turning centers, machining centers, and CNC lathes.

### Machine requirements

- Coolant-through spindle
- Coolant pressure of 2-4 MPa (290-580 psi)
- Minimum coolant filtration level of 50  $\mu\text{m}$  (Use 10  $\mu\text{m}$  when electro-plated grinding tools are used)



Turning center



Machining center



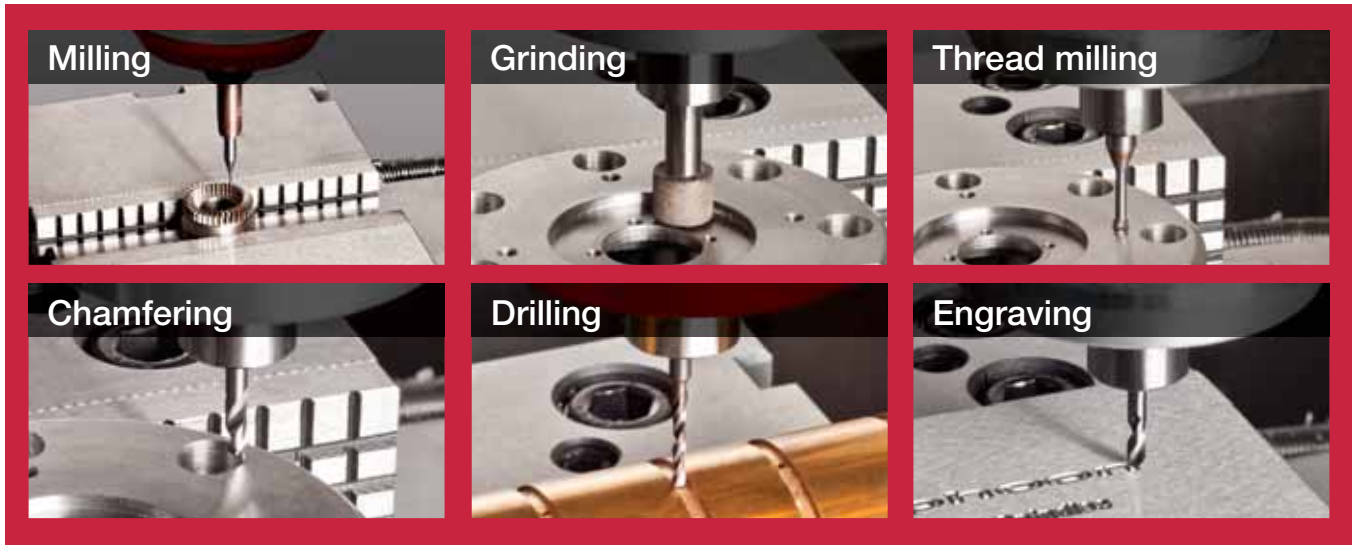
Lathe machine

### Applicable on various tool magazines



## Suitable for a wide range of applications

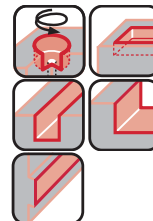
- SpinJet provides highly efficient machining with various small-diameter tools up to  $\varnothing 3.5$  mm.
- Especially effective for engraving, chamfering, and fine radial grinding.



## SOLIDMEISTER

TUNGALOY

Solid endmills with long tool life and high reliability  
Square and ball nose types.

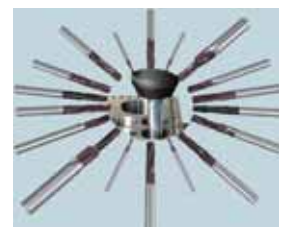


## SOLIDTHREAD

TUNGALOY

### MTECS

Small-diameter threading endmills for metric and unified internal threads.  
Low cutting force due to short contact time of tools and workpiece materials, resulting in high-precision threading.

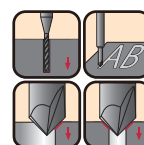


## GIGAMINIDRILL

TUNGALOY

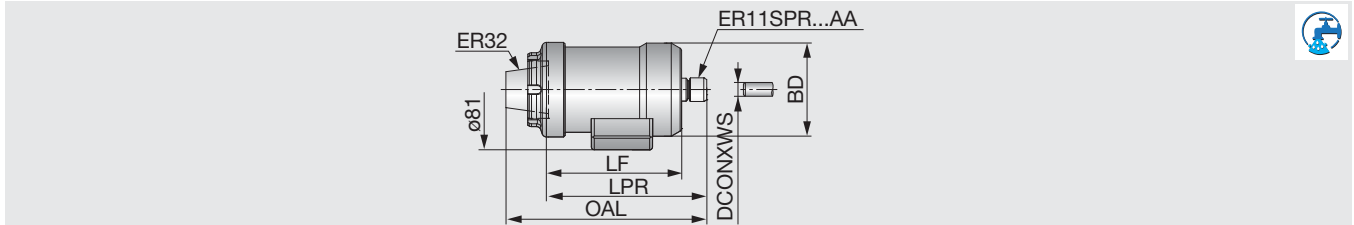
### DSM

High precision, high reliability and long tool life  
Micro-diameter drills that provide safe and secure operations.  
Drill diameter:  $\varnothing D_c = \varnothing 0.1 - \varnothing 3.0$  mm



## TJS-ER32

Coolant driven high speed compact spindles for ER32 collet chuck



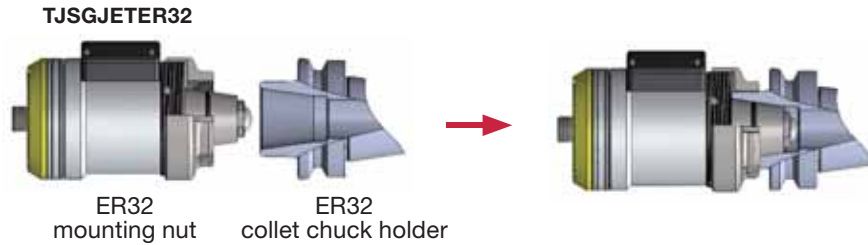
Designation	LF	LPR	OAL	BD	DCONXWS <sup>(1)</sup>	WT(kg)
TJSGJETER32	92	109	136	63	7	1.3

- Coolant pressure through machine spindle: Min. 2 MPa / Max. 4 MPa
- Min. flow rate: 12 l/min
- (1) Max. tool shank diameter: ø7 mm

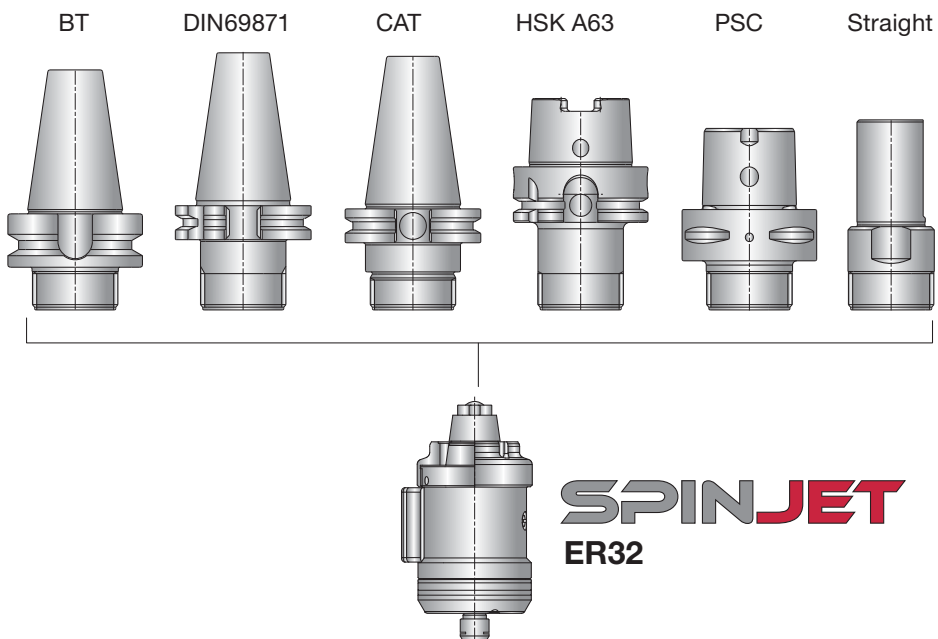
### SPARE PARTS

Designation	Nut	Wrench for nut	Shaft lock key	Display (Option)
TJSGJETER32	NUTER11GHS	WRENCHER11SMS	TJSSHAFTLOCKKEYGJET	TJSTSDDISPLAY***

### ■ Built-in ER32 collet chuck



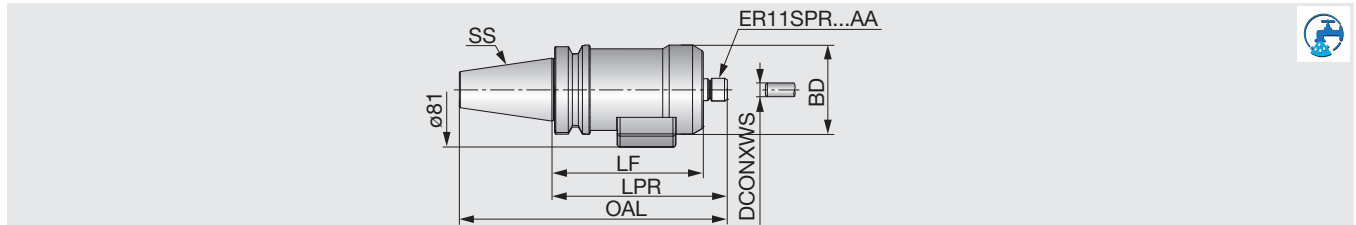
### ■ Options of SpinJet adaptation with ER32





## TJS-BT

Coolant driven high speed compact spindles with BT shanks



Designation	SS	LF	LPR	OAL	BD	DCONXWS <sup>(1)</sup>	WT(kg)
TJSGJETBT30	BT30	124	141	189	63	7	1.6
TJSGJETBT40	BT40	107	124	189	63	7	1.8

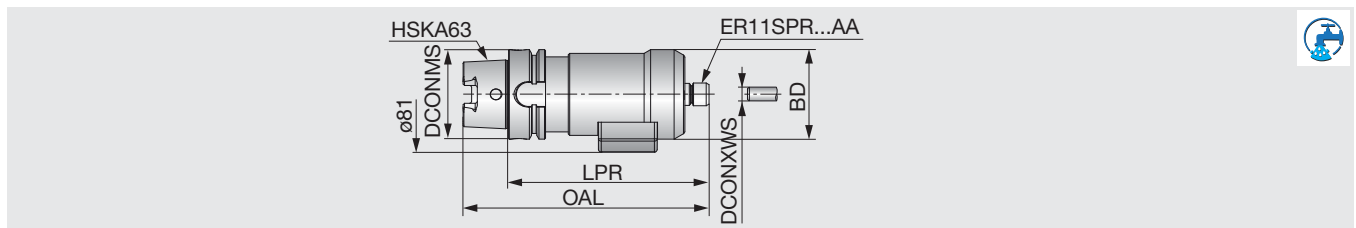
- Coolant pressure through machine spindle: Min. 2 MPa / Max. 4 MPa
- Min. flow rate: 12 l/min
- (1) Max. tool shank diameter: ø7 mm

### SPARE PARTS

Designation	Nut	Wrench for nut	Shaft lock key	Display (Option)
TJSGJETBT...	NUTER11GHS	WRENCHER11SMS	TJSSHAFTLOCKKEYGJET	TJSTSDDISPLAY***

## TJS-HSK A63

Coolant driven high speed compact spindles with HSK A63 shanks



Designation	DCONMS	LPR	OAL	BD	DCONXWS <sup>(1)</sup>	WT(kg)
TJSGJETHSKA63	63	141	173	63	7	1.8

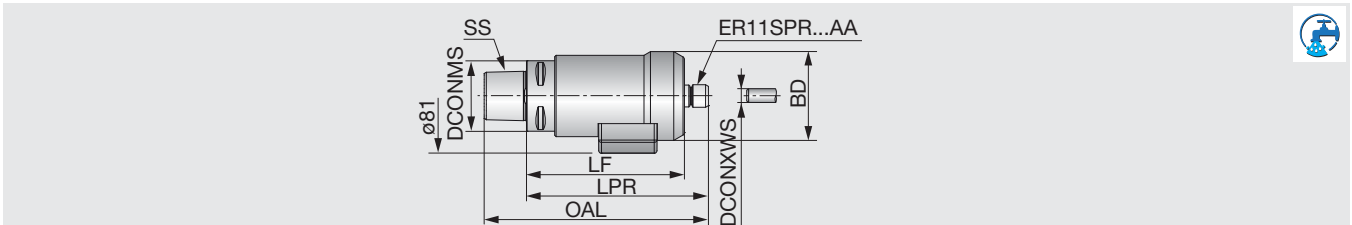
- Coolant pressure through machine spindle: Min. 2 MPa / Max. 4 MPa
- Min. flow rate: 12 l/min
- (1) Max. tool shank diameter: ø7 mm

### SPARE PARTS

Designation	Nut	Wrench for nut	Shaft lock key	Display (Option)
TJSGJETHSKA63	NUTER11GHS	WRENCHER11SMS	TJSSHAFTLOCKKEYGJET	TJSTSDDISPLAY***

## TJS-C

Coolant driven high speed compact spindles with TungCap PSC ISO 26623-1 shanks



Designation	SS	DCONMS	LF	LPR	OAL	BD	DCONXWS <sup>(1)</sup>	WT(kg)
TJSGJETC5	C5	50	112	129	159	63	7	1.5
TJSGJETC6	C6	63	102	119	157	63	7	1.6

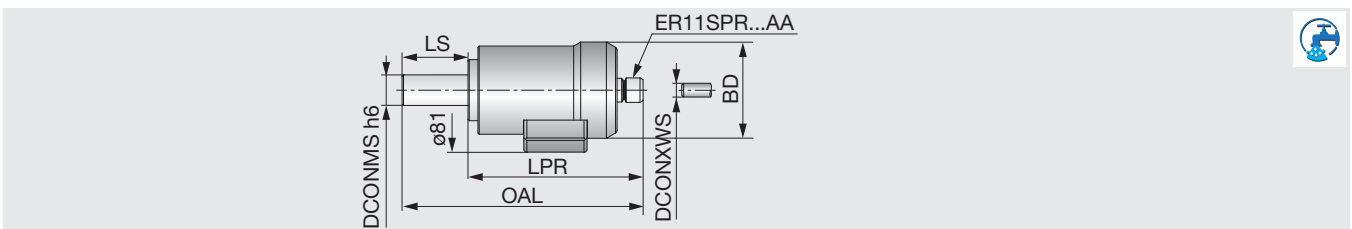
- Coolant pressure through machine spindle: Min. 2 MPa / Max. 4 MPa
- Min. flow rate: 12 l/min
- (1) Max. tool shank diameter: ø7 mm

### SPARE PARTS

Designation	Nut	Wrench for nut	Shaft lock key	Display (Option)
TJSGJETHSKA63	NUTER11GHS	WRENCHER11SMS	TJSSHAFTLOCKKEYGJET	TJSTSDDISPLAY***

## TJS-ST

Coolant driven high speed compact spindles with straight (Cylindrical) shanks



Designation	DCONMS	LS	LPR	OAL	BD	DCONXWS <sup>(1)</sup>	WT(kg)
TJSGJETST20	20	43	115	158	63	7	1.2

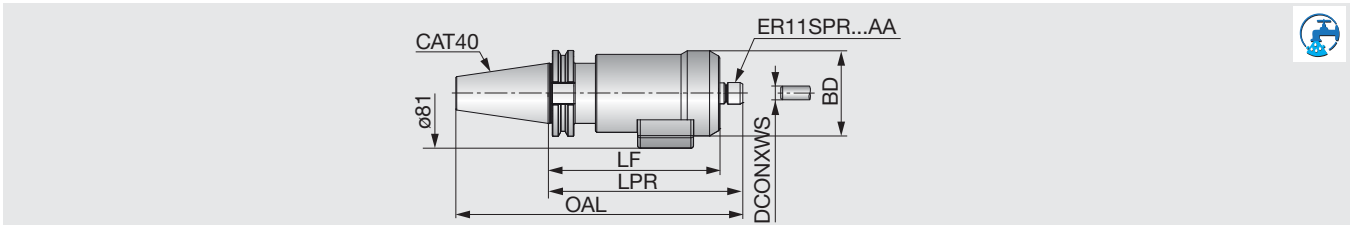
- Coolant pressure through machine spindle: Min. 2 MPa / Max. 4 MPa
- Min. flow rate: 12 l/min
- (1) Max. tool shank diameter: ø7 mm

### SPARE PARTS

Designation	Nut	Wrench for nut	Shaft lock key	Display (Option)
TJSGJETHSKA63	NUTER11GHS	WRENCHER11SMS	TJSSHAFTLOCKKEYGJET	TJSTSDDISPLAY***

## TJS-CAT

Coolant driven high speed compact spindles with CAT shanks



Designation	LF	LPR	OAL	BD	DCONXWS <sup>(1)</sup>	WT(kg)
TJSGJETCAT40	127	144	212	63	7	2

- Coolant pressure through machine spindle: Min. 2 MPa / Max. 4 MPa
- Min. flow rate: 12 l/min
- (1) Max. tool shank diameter: ø7 mm

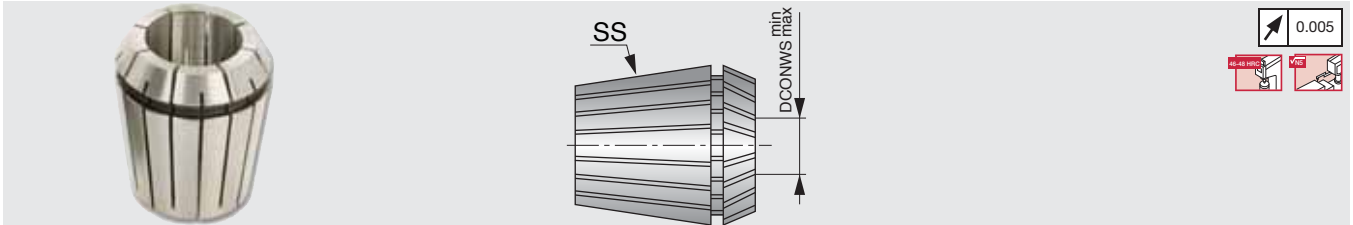
### SPARE PARTS



Designation	Nut	Wrench for nut	Shaft lock key	Display (Option)
TJSGJETHSKA63	NUTER11GHS	WRENCHER11SMS	TJSSHAFTLOCKKEYGJET	TJSTSDDISPLAY***

## ER-SPR-AA

### ER 11 AA collet

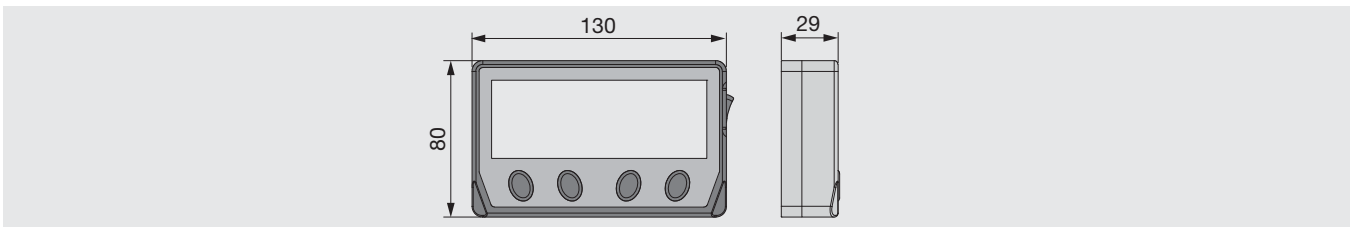


Designation	SS	DCONWS min	DCONWS max
ER11SPR0.5-1AA	ER11	0.5	1
ER11SPR1-2AA	ER11	1	2
ER11SPR2-3AA	ER11	2	3
ER11SPR3-4AA	ER11	3	4
ER11SPR4-5AA	ER11	4	5
ER11SPR5-6AA	ER11	5	6
ER11SPR6-7AA	ER11	6	7

AA collet run-out: 0.005 mm

## Wireless RPM speed display

### RPM speed display for SPINJET high speed spindles



Designation	Machine
TJSTDDISPLAYEUR (For Europe)	TJS spindles
TJSTDDISPLAYUSA (For the United States and Japan)	TJS spindles

Including plug adaptor

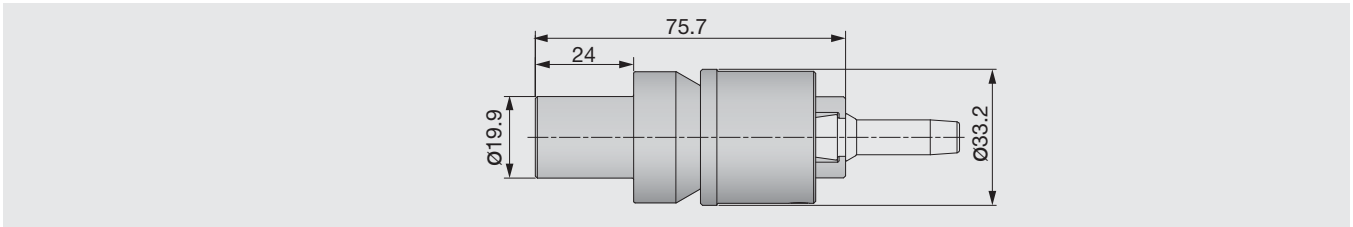
- Plug adaptor for wireless RPM speed display

Type	TJSTDDISPLAYEUR	TJSTDDISPLAYUSA
Designation	TJSDISP.POWERSUPP-EUR	TJSDISP.POWERSUPP-USA
Appearance	<p>Plug adaptor for Europe</p>	<p>Plug adaptor for the United States and Japan</p>

Plug adaptor is also sold separately.

## ER-SRK Shrink collet adapter

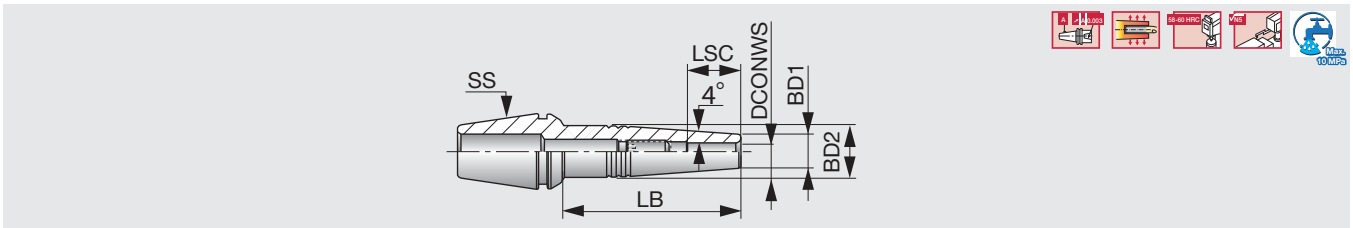
ER 11 shrink collet adapter for induction heating device



Designation	Machine
INDER11TOOLADAPTER	TJS spindles

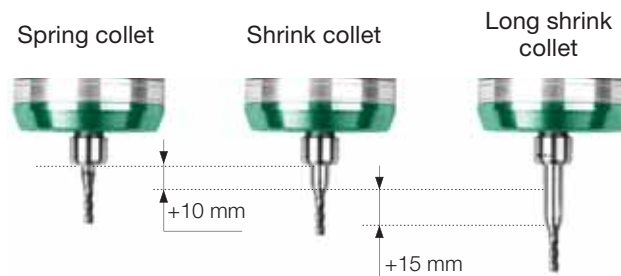
## ER-SRK Shrink collet

ER 11 shrink collet for induction heating device

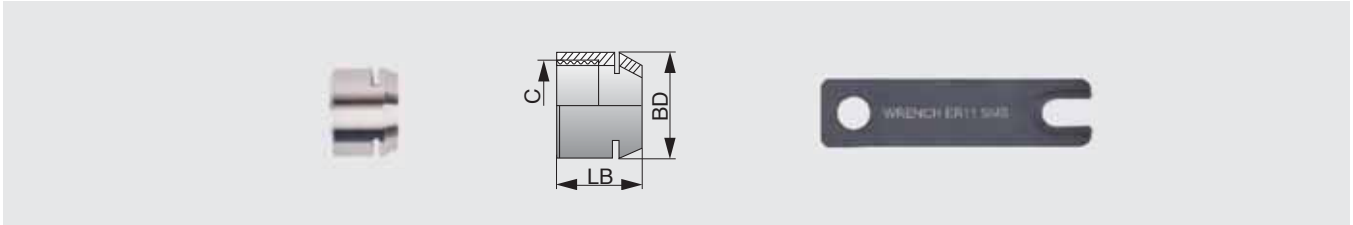


Designation	SS	DCONWS	LB	LSC	BD2	BD1
ER11SRK3X10	ER11	3	10	9.5	8.5	7.6
ER11SRK3X25	ER11	3	25	11.5	8.5	7.6
ER11SRK4X10	ER11	4	10	9.5	8.5	7.6
ER11SRK4X25	ER11	4	25	11.5	8.5	7.6

For carbide tools only



**Nut and wrench for collets**



Designation	BD	LB	C	Wrench
NUTER11GHS	16	11.5	M13X0.75	WRENCHER11SMS

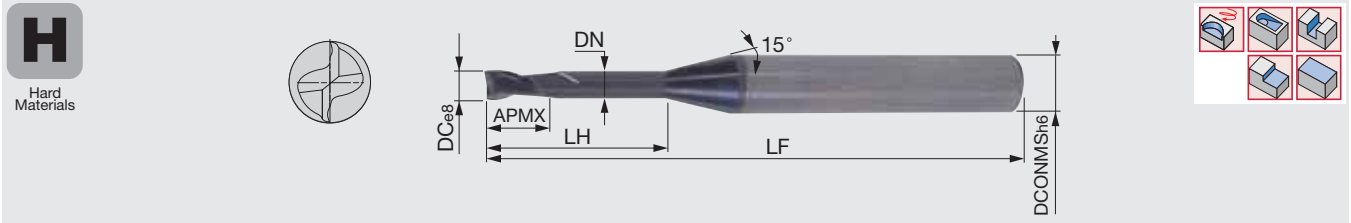
**Shaft lock key**



Designation
TJSSHAFTLOCKKEYGJET

## TEC\*\*A2-\*\*C\*M...

2 flute endmill for rib processing, 30° helix for materials up to 65 HRC



Designation	AH750	DC	DCONMS	DN	APMX	LH	LF	Shank
TEC004A2-006/02C4M45	●	0.4	4	0.37	0.6	2	45	Cylindrical
TEC004A2-006/04C4M45	●	0.4	4	0.37	0.6	4	45	Cylindrical
TEC005A2-007/02C4M45	●	0.5	4	0.45	0.7	2	45	Cylindrical
TEC005A2-007/04C4M45	●	0.5	4	0.45	0.7	4	45	Cylindrical
TEC005A2-007/06C4M45	●	0.5	4	0.45	0.7	6	45	Cylindrical
TEC006A2-009/02C4M45	●	0.6	4	0.55	0.9	2	45	Cylindrical
TEC006A2-009/04C4M45	●	0.6	4	0.55	0.9	4	45	Cylindrical
TEC006A2-009/06C4M45	●	0.6	4	0.55	0.9	6	45	Cylindrical
TEC007A2-010/02C4M45	●	0.7	4	0.65	1	2	45	Cylindrical
TEC008A2-012/04C4M45	●	0.8	4	0.75	1.2	4	45	Cylindrical
TEC008A2-012/06C4M45	●	0.8	4	0.75	1.2	6	45	Cylindrical
TEC008A2-012/08C4M45	●	0.8	4	0.75	1.2	8	45	Cylindrical
TEC009A2-0135/06C4M45	●	0.9	4	0.85	1.35	6	45	Cylindrical
TEC009A2-0135/08C4M45	●	0.9	4	0.85	1.35	8	45	Cylindrical
TEC009A2-0135/10C4M45	●	0.9	4	0.85	1.35	10	45	Cylindrical
TEC010A2-015/04C4M45	●	1	4	0.97	1.5	4	45	Cylindrical
TEC010A2-015/06C4M45	●	1	4	0.97	1.5	6	45	Cylindrical
TEC010A2-015/08C4M45	●	1	4	0.95	1.5	8	45	Cylindrical
TEC010A2-015/10C4M45	●	1	4	0.95	1.5	10	45	Cylindrical
TEC010A2-015/12C4M45	●	1	4	0.93	1.5	12	45	Cylindrical
TEC010A2-015/16C4M50	●	1	4	0.93	1.5	16	50	Cylindrical
TEC012A2-018/06C4M45	●	1.2	4	1.17	1.8	6	45	Cylindrical
TEC012A2-018/08C4M45	●	1.2	4	1.15	1.8	8	45	Cylindrical
TEC012A2-018/10C4M45	●	1.2	4	1.15	1.8	10	45	Cylindrical
TEC012A2-018/16C4M50	●	1.2	4	1.13	1.8	16	50	Cylindrical
TEC014A2-021/06C4M45	●	1.4	4	1.35	2.1	6	45	Cylindrical
TEC014A2-021/08C4M45	●	1.4	4	1.35	2.1	8	45	Cylindrical
TEC014A2-021/10C4M45	●	1.4	4	1.35	2.1	10	45	Cylindrical
TEC015A2-023/06C4M45	●	1.5	4	1.47	2.3	6	45	Cylindrical
TEC015A2-023/08C4M45	●	1.5	4	1.45	2.3	8	45	Cylindrical
TEC015A2-023/10C4M45	●	1.5	4	1.45	2.3	10	45	Cylindrical
TEC015A2-023/12C4M45	●	1.5	4	1.43	2.3	12	45	Cylindrical
TEC015A2-023/16C4M50	●	1.5	4	1.41	2.3	16	50	Cylindrical

● : Line up

## TEC\*\*A2-\*\*C\*M...

2 flute endmill for rib processing, 30° helix for materials up to 65 HRC

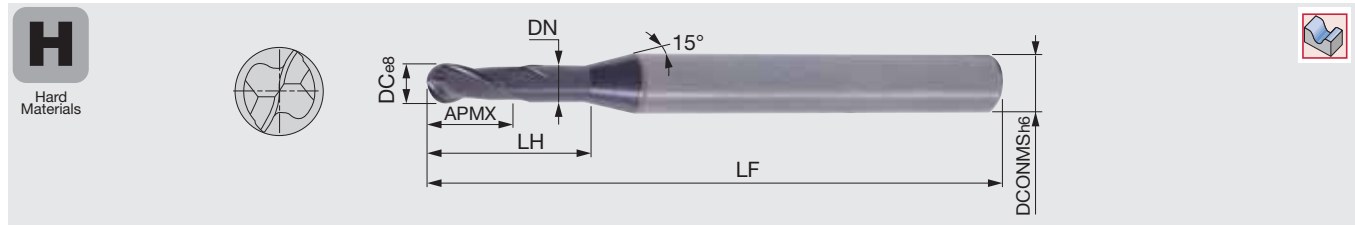
Designation	AH750	DC	DCONMS	DN	APMX	LH	LF	Shank
TEC015A2-023/18C4M55	●	1.5	4	1.41	2.3	18	55	Cylindrical
TEC015A2-023/20C4M55	●	1.5	4	1.41	2.3	20	55	Cylindrical
TEC016A2-024/06C4M45	●	1.6	4	1.57	2.4	6	45	Cylindrical
TEC016A2-024/08C4M45	●	1.6	4	1.55	2.4	8	45	Cylindrical
TEC016A2-024/10C4M45	●	1.6	4	1.55	2.4	10	45	Cylindrical
TEC016A2-024/18C4M55	●	1.6	4	1.53	2.4	18	55	Cylindrical
TEC016A2-024/20C4M55	●	1.6	4	1.53	2.4	20	55	Cylindrical
TEC016A2-024/26C4M60	●	1.6	4	1.53	2.4	26	60	Cylindrical
TEC018A2-027/06C4M45	●	1.8	4	1.77	2.7	6	45	Cylindrical
TEC018A2-027/08C4M45	●	1.8	4	1.75	2.7	8	45	Cylindrical
TEC018A2-027/10C4M45	●	1.8	4	1.75	2.7	10	45	Cylindrical
TEC018A2-027/12C4M45	●	1.8	4	1.73	2.7	12	45	Cylindrical
TEC020A2-030/06C4M45	●	2	4	1.97	3	6	45	Cylindrical
TEC020A2-030/08C4M45	●	2	4	1.95	3	8	45	Cylindrical
TEC020A2-030/10C4M45	●	2	4	1.95	3	10	45	Cylindrical
TEC020A2-030/12C4M45	●	2	4	1.93	3	12	45	Cylindrical
TEC020A2-030/16C4M50	●	2	4	1.91	3	16	50	Cylindrical
TEC020A2-030/20C4M55	●	2	4	1.89	3	20	55	Cylindrical
TEC020A2-030/30C4M70	●	2	4	1.89	3	30	70	Cylindrical
TEC025A2-037/08C4M45	●	2.5	4	2.4	3.7	8	45	Cylindrical
TEC025A2-037/10C4M45	●	2.5	4	2.4	3.7	10	45	Cylindrical
TEC025A2-037/12C4M45	●	2.5	4	2.4	3.7	12	45	Cylindrical
TEC025A2-037/16C4M55	●	2.5	4	2.4	3.7	16	55	Cylindrical
TEC025A2-037/20C4M60	●	2.5	4	2.4	3.7	20	60	Cylindrical
TEC025A2-037/30C4M80	●	2.5	4	2.4	3.7	30	80	Cylindrical
TEC030A2-045/08C6M45	●	3	6	2.85	4.5	8	45	Cylindrical
TEC030A2-045/10C6M45	●	3	6	2.85	4.5	10	45	Cylindrical
TEC030A2-045/12C6M45	●	3	6	2.85	4.5	12	45	Cylindrical
TEC030A2-045/16C6M55	●	3	6	2.85	4.5	16	55	Cylindrical
TEC030A2-045/20C6M60	●	3	6	2.85	4.5	20	60	Cylindrical
TEC030A2-045/30C6M70	●	3	6	2.85	4.5	30	70	Cylindrical
TEC030A2-045/40C6M90	●	3	6	2.85	4.5	40	90	Cylindrical

● : Line up



## TEB\*\*A2-\*\*C\*\*M...

2 flute ball nose for rib processing, 30° helix for materials up to 65 HRC

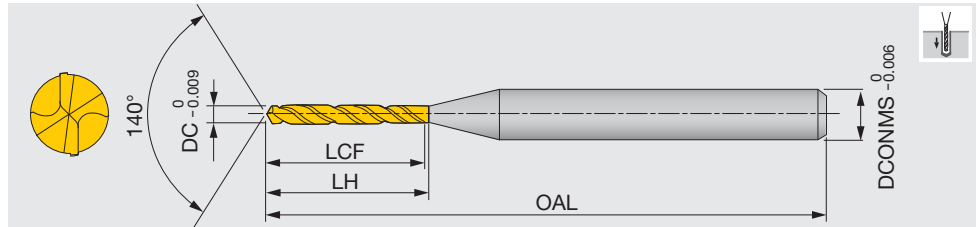


Designation	AH750	DC	DCONMS	DN	APMX	LH	LF	Shank
TEB004A2-006/02C4M45	●	0.4	4	0.36	0.6	2	45	Cylindrical
TEB004A2-006/03C4M45	●	0.4	4	0.36	0.6	3	45	Cylindrical
TEB005A2-007/02C4M45	●	0.5	4	0.45	0.7	2	45	Cylindrical
TEB005A2-007/04C4M45	●	0.5	4	0.45	0.7	4	45	Cylindrical
TEB005A2-007/06C4M45	●	0.5	4	0.45	0.7	6	45	Cylindrical
TEB006A2-009/02C4M45	●	0.6	4	0.55	0.9	2	45	Cylindrical
TEB006A2-009/04C4M45	●	0.6	4	0.55	0.9	4	45	Cylindrical
TEB008A2-012/04C4M45	●	0.8	4	0.75	1.2	4	45	Cylindrical
TEB008A2-012/06C4M45	●	0.8	4	0.75	1.2	6	45	Cylindrical
TEB010A2-015/04C4M45	●	1	4	0.97	1.5	4	45	Cylindrical
TEB010A2-015/06C4M45	●	1	4	0.97	1.5	6	45	Cylindrical
TEB010A2-015/08C4M45	●	1	4	0.95	1.5	8	45	Cylindrical
TEB010A2-015/10C4M45	●	1	4	0.95	1.5	10	45	Cylindrical
TEB010A2-015/12C4M45	●	1	4	0.93	1.5	12	45	Cylindrical
TEB010A2-015/16C4M50	●	1	4	0.93	1.5	16	50	Cylindrical
TEB012A2-018/08C4M45	●	1.2	4	1.17	1.8	8	45	Cylindrical
TEB012A2-018/12C4M45	●	1.2	4	1.13	1.8	12	45	Cylindrical
TEB014A2-021/08C4M45	●	1.4	4	1.35	2.1	8	45	Cylindrical
TEB014A2-021/16C4M50	●	1.4	4	1.31	2.1	16	50	Cylindrical
TEB015A2-023/06C4M45	●	1.5	4	1.47	2.3	6	45	Cylindrical
TEB015A2-023/08C4M45	●	1.5	4	1.45	2.3	8	45	Cylindrical
TEB015A2-023/10C4M45	●	1.5	4	1.45	2.3	10	45	Cylindrical
TEB015A2-023/12C4M45	●	1.5	4	1.43	2.3	12	45	Cylindrical
TEB015A2-023/16C4M50	●	1.5	4	1.41	2.3	16	50	Cylindrical
TEB015A2-023/20C4M55	●	1.5	4	1.39	2.3	20	55	Cylindrical
TEB016A2-024/08C4M45	●	1.6	4	1.55	2.4	8	45	Cylindrical
TEB016A2-024/12C4M45	●	1.6	4	1.53	2.4	12	45	Cylindrical
TEB018A2-027/08C4M45	●	1.8	4	1.75	2.7	8	45	Cylindrical
TEB018A2-027/12C4M45	●	1.8	4	1.73	2.7	12	45	Cylindrical
TEB018A2-027/16C4M50	●	1.8	4	1.71	2.7	16	50	Cylindrical
TEB020A2-030/06C4M45	●	2	4	1.97	3	6	45	Cylindrical
TEB020A2-030/10C4M45	●	2	4	1.93	3	10	45	Cylindrical
TEB020A2-030/12C4M50	●	2	4	1.93	3	12	50	Cylindrical
TEB020A2-030/16C4M50	●	2	4	1.91	3	16	50	Cylindrical
TEB020A2-030/20C4M55	●	2	4	1.89	3	20	55	Cylindrical
TEB020A2-030/30C4M70	●	2	4	1.89	3	30	70	Cylindrical
TEB030A2-045/08C6M50	●	3	6	2.85	4.5	8	50	Cylindrical
TEB030A2-045/10C6M50	●	3	6	2.85	4.5	10	50	Cylindrical
TEB030A2-045/12C6M50	●	3	6	2.85	4.5	12	50	Cylindrical
TEB030A2-045/16C6M55	●	3	6	2.85	4.5	16	55	Cylindrical
TEB030A2-045/20C6M60	●	3	6	2.85	4.5	20	60	Cylindrical
TEB030A2-045/30C6M70	●	3	6	2.85	4.5	30	70	Cylindrical

● : Line up

## DSM

Micro solid drill with standard shank size of  $\varnothing 3$  mm, without coolant hole, dia.=  $\varnothing 0.1$  mm -  $\varnothing 2$  mm, L/D = 5 - 15



Designation	DC	Coated		DCONMS	LCF	LH	OAL	Designation	DC	Coated		DCONMS	LCF	LH	OAL
		YH170	YH180							YH170	YH180				
DSM0010G10	0.1	●		3	1.15	1.4	38	DSM0053G10	0.53			3	6.6	7.2	38
DSM0011G10	0.11	●		3	1.25	1.5	38	DSM0054G10	0.54			3	6.6	7.2	38
DSM0012G10	0.12	●		3	1.35	1.6	38	DSM0055G10	0.55	●		3	6.6	7.2	38
DSM0013G10	0.13	●		3	1.55	1.8	38	DSM0056G10	0.56			3	7.3	7.9	38
DSM0014G10	0.14	●		3	1.65	1.9	38	DSM0057G10	0.57			3	7.3	7.9	38
DSM0015G10	0.15	●		3	1.75	2	38	DSM0058G10	0.58			3	7.3	7.9	38
DSM0016G10	0.16	●		3	1.85	2.1	38	DSM0059G10	0.59			3	7.3	7.9	38
DSM0017G10	0.17	●		3	1.95	2.2	38	DSM0060G10	0.6	●		3	7.3	7.9	38
DSM0018G10	0.18	●		3	2.15	2.4	38	DSM0061G10	0.61			3	7.9	8.5	38
DSM0019G10	0.19	●		3	2.25	2.5	38	DSM0062G10	0.62			3	7.9	8.5	38
DSM0020G10	0.2	●		3	2.35	2.6	38	DSM0063G10	0.63			3	7.9	8.5	38
DSM0021G10	0.21	●		3	2.45	2.7	38	DSM0064G10	0.64			3	7.9	8.5	38
DSM0022G10	0.22	●		3	2.55	2.8	38	DSM0065G10	0.65	●		3	7.9	8.5	38
DSM0023G10	0.23	●		3	2.75	3	38	DSM0066G10	0.66			3	8.6	9.2	38
DSM0024G10	0.24	●		3	2.85	3.1	38	DSM0067G10	0.67			3	8.6	9.2	38
DSM0025G10	0.25	●		3	3	3.3	38	DSM0068G10	0.68			3	8.6	9.2	38
DSM0026G10	0.26	●		3	3.1	3.4	38	DSM0069G10	0.69			3	8.6	9.2	38
DSM0027G10	0.27	●		3	3.2	3.5	38	DSM0070G10	0.7	●		3	8.6	9.2	38
DSM0028G10	0.28	●		3	3.4	3.7	38	DSM0071G10	0.71			3	9.2	9.8	38
DSM0029G10	0.29	●		3	3.5	3.8	38	DSM0072G10	0.72			3	9.2	9.8	38
DSM0030G10	0.3	●		3	3.9	4.2	38	DSM0073G10	0.73			3	9.2	9.8	38
DSM0031G15	0.31	●		3	5.6	5.9	38	DSM0074G10	0.74			3	9.2	9.8	38
DSM0032G15	0.32	●		3	5.6	5.9	38	DSM0075G10	0.75	●		3	9.2	9.8	38
DSM0033G15	0.33	●		3	5.6	5.9	38	DSM0076G10	0.76			3	9.9	10.5	38
DSM0034G15	0.34	●		3	5.6	5.9	38	DSM0077G10	0.77			3	9.9	10.5	38
DSM0035G15	0.35	●		3	5.6	5.9	38	DSM0078G10	0.78			3	9.9	10.5	38
DSM0036G15	0.36	●		3	6.5	6.8	38	DSM0079G10	0.79			3	9.9	10.5	38
DSM0037G15	0.37	●		3	6.5	6.8	38	DSM0080G10	0.8	●		3	9.9	10.5	38
DSM0038G15	0.38	●		3	6.5	6.8	38	DSM0081G10	0.81			3	10.5	11.1	38
DSM0039G15	0.39	●		3	6.5	6.8	38	DSM0082G10	0.82			3	10.5	11.1	38
DSM0040G15	0.4	●		3	6.5	6.8	38	DSM0083G10	0.83			3	10.5	11.1	38
DSM0041G15	0.41	●		3	7.4	7.7	38	DSM0084G10	0.84			3	10.5	11.1	38
DSM0042G15	0.42	●		3	7.4	7.7	38	DSM0085G10	0.85			3	10.5	11.1	38
DSM0043G15	0.43	●		3	7.4	7.7	38	DSM0086G10	0.86			3	9.9	10.5	38
DSM0044G15	0.44	●		3	7.4	7.7	38	DSM0087G10	0.87			3	9.9	10.5	38
DSM0045G15	0.45	●		3	7.4	7.7	38	DSM0088G10	0.88	●		3	9.9	10.5	38
DSM0046G15	0.46	●		3	8.1	8.7	38	DSM0089G10	0.89			3	9.9	10.5	38
DSM0047G15	0.47	●		3	8.1	8.7	38	DSM0090G10	0.9	●		3	9.9	10.5	38
DSM0048G15	0.48	●		3	8.1	8.7	38	DSM0091G10	0.91			3	10.5	11.1	38
DSM0049G15	0.49	●		3	8.1	8.7	38	DSM0092G10	0.92			3	10.5	11.1	38
DSM0050G15	0.5	●		3	8.1	8.7	38	DSM0093G10	0.93			3	10.5	11.1	38
DSM0051G10	0.51			3	6.6	7.2	38	DSM0094G10	0.94			3	10.5	11.1	38
DSM0052G10	0.52			3	6.6	7.2	38	DSM0095G10	0.95			3	10.5	11.1	38

# ACCELERATED MACHINING

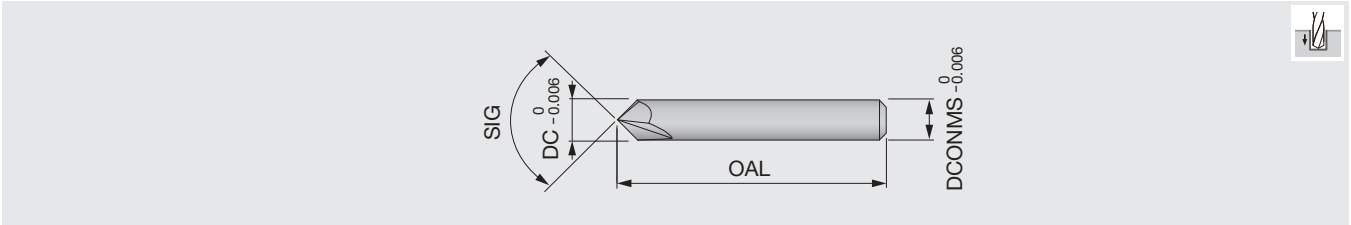
Designation	DC	Coated		DCONMS	LCF	LH	OAL	Designation	DC	Coated		DCONMS	LCF	LH	OAL
		YH170	YH180							YH170	YH180				
DSM0096G10	0.96			3	11	11.6	38	DSM0157G05	1.57			3	12.1	12.7	45
DSM0097G10	0.97	●		3	11	11.6	38	DSM0158G05	1.58			3	12.1	12.7	45
DSM0098G10	0.98			3	11	11.6	38	DSM0159G05	1.59			3	12.1	12.7	45
DSM0099G10	0.99			3	11	11.6	38	DSM0160G05	1.6	●		3	12.1	12.7	45
DSM0100G10	1	●		3	11.5	12.1	38	DSM0161G05	1.61			3	12.9	13.6	45
DSM0101G05	1.01			3	8	8.6	38	DSM0162G05	1.62			3	12.9	13.6	45
DSM0102G05	1.02			3	8	8.6	38	DSM0163G05	1.63			3	12.9	13.6	45
DSM0103G05	1.03			3	8	8.6	38	DSM0164G05	1.64			3	12.9	13.6	45
DSM0104G05	1.04			3	8	8.6	38	DSM0165G05	1.65	●		3	12.9	13.6	45
DSM0105G05	1.05			3	8	8.6	38	DSM0166G05	1.66			3	12.9	13.6	45
DSM0106G05	1.06			3	8	8.6	38	DSM0167G05	1.67			3	12.9	13.6	45
DSM0107G05	1.07			3	8	8.6	38	DSM0168G05	1.68			3	12.9	13.6	45
DSM0108G05	1.08	●		3	8	8.6	38	DSM0169G05	1.69			3	12.9	13.6	45
DSM0109G05	1.09			3	8	8.6	38	DSM0170G05	1.7	●		3	12.9	13.6	45
DSM0110G05	1.1	●		3	8	8.6	38	DSM0171G05	1.71			3	13.7	14.3	45
DSM0111G05	1.11			3	8.9	9.5	38	DSM0172G05	1.72			3	13.7	14.3	45
DSM0112G05	1.12			3	8.9	9.5	38	DSM0173G05	1.73			3	13.7	14.3	45
DSM0113G05	1.13			3	8.9	9.5	38	DSM0174G05	1.74			3	13.7	14.3	45
DSM0114G05	1.14			3	8.9	9.5	38	DSM0175G05	1.75			3	13.7	14.3	45
DSM0115G05	1.15			3	8.9	9.5	38	DSM0176G05	1.76			3	13.7	14.3	45
DSM0116G05	1.16			3	8.9	9.5	38	DSM0177G05	1.77			3	13.7	14.3	45
DSM0117G05	1.17			3	8.9	9.5	38	DSM0178G05	1.78			3	13.7	14.3	45
DSM0118G05	1.18			3	8.9	9.5	38	DSM0179G05	1.79			3	13.7	14.3	45
DSM0119G05	1.19			3	8.9	9.5	38	DSM0180G05	1.8	●		3	13.7	14.3	45
DSM0120G05	1.2	●		3	8.9	9.5	38	DSM0181G05	1.81			3	14.5	15.1	45
DSM0121G05	1.21			3	9.7	10.3	38	DSM0182G05	1.82	●		3	14.5	15.1	45
DSM0122G05	1.22			3	9.7	10.3	38	DSM0183G05	1.83			3	14.5	15.1	45
DSM0123G05	1.23			3	9.7	10.3	38	DSM0184G05	1.84			3	14.5	15.1	45
DSM0124G05	1.24			3	9.7	10.3	38	DSM0185G05	1.85	●		3	14.5	15.1	45
DSM0125G05	1.25			3	9.7	10.3	38	DSM0186G05	1.86			3	14.5	15.1	45
DSM0126G05	1.26			3	9.7	10.3	38	DSM0187G05	1.87			3	14.5	15.1	45
DSM0127G05	1.27			3	9.7	10.3	38	DSM0188G05	1.88			3	14.5	15.1	45
DSM0128G05	1.28			3	9.7	10.3	38	DSM0189G05	1.89			3	14.5	15.1	45
DSM0129G05	1.29			3	9.7	10.3	38	DSM0190G05	1.9	●		3	14.5	15.1	45
DSM0130G05	1.3	●		3	9.7	10.3	38	DSM0191G05	1.91			3	15.3	15.9	45
DSM0131G05	1.31			3	10.5	11.1	38	DSM0192G05	1.92			3	15.3	15.9	45
DSM0132G05	1.32			3	10.5	11.1	38	DSM0193G05	1.93			3	15.3	15.9	45
DSM0133G05	1.33			3	10.5	11.1	38	DSM0194G05	1.94			3	15.3	15.9	45
DSM0134G05	1.34			3	10.5	11.1	38	DSM0195G05	1.95	●		3	15.3	15.9	45
DSM0135G05	1.35			3	10.5	11.1	38	DSM0196G05	1.96			3	15.3	15.9	45
DSM0136G05	1.36			3	10.5	11.1	38	DSM0197G05	1.97			3	15.3	15.9	45
DSM0137G05	1.37			3	10.5	11.1	38	DSM0198G05	1.98			3	15.3	15.9	45
DSM0138G05	1.38			3	10.5	11.1	38	DSM0199G05	1.99			3	15.3	15.9	45
DSM0139G05	1.39			3	10.5	11.1	38	DSM0200G05	2		●	3	15.3	15.9	45
DSM0140G05	1.4	●		3	10.5	11.1	38								
DSM0141G05	1.41			3	11.3	11.9	38								
DSM0142G05	1.42			3	11.3	11.9	38								
DSM0143G05	1.43			3	11.3	11.9	38								
DSM0144G05	1.44			3	11.3	11.9	38								
DSM0145G05	1.45	●		3	11.3	11.9	38								
DSM0146G05	1.46			3	11.3	11.9	38								
DSM0147G05	1.47			3	11.3	11.9	38								
DSM0148G05	1.48			3	11.3	11.9	38								
DSM0149G05	1.49			3	11.3	11.9	38								
DSM0150G05	1.5	●		3	11.3	11.9	38								
DSM0151G05	1.51			3	12.1	12.7	45								
DSM0152G05	1.52			3	12.1	12.7	45								
DSM0153G05	1.53	●		3	12.1	12.7	45								
DSM0154G05	1.54			3	12.1	12.7	45								
DSM0155G05	1.55	●		3	12.1	12.7	45								
DSM0156G05	1.56			3	12.1	12.7	45								

Note: Use a pilot hole before drilling ø0.3 mm hole or smaller

● : Line up

## DSM-CP

Centering drill for DSM

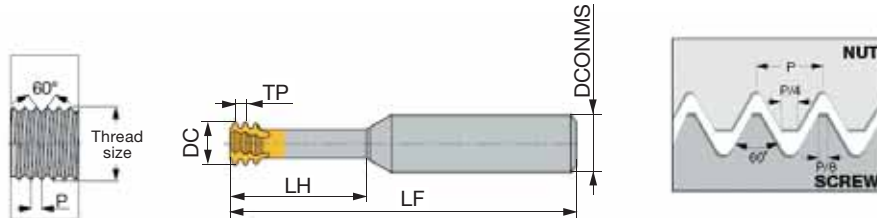


Designation	DC	YH170	DCONMS	OAL	SIG
DSM-CP90	3	●	3	38.1	90
DSM-CP140	3	●	3	38.1	140

● : Line up

## MTECS-ISO

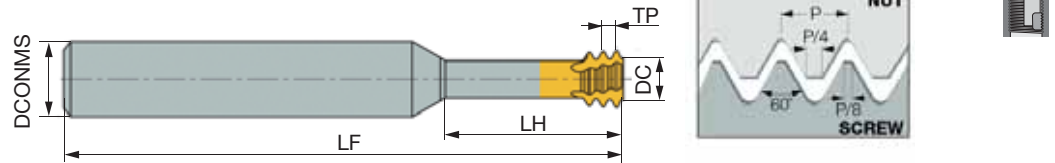
Small diameter solid carbide, Threading endmills for internal ISO metric profile, Without coolant hole



Designation	Pitch	Application range	DCONMS	DC	Number of flutes	LH	LF	Grade
MTECS03007C20.25ISO	0.25	M1 <sub>≤</sub>	3	0.72	3	2.5	39	AH725
MTECS03009C30.25ISO	0.25	M1.2 <sub>≤</sub>	3	0.9	3	3	39	AH725
MTECS03011C40.3ISO	0.3	M1.4 <sub>≤</sub>	3	1.05	3	4	39	AH725
MTECS03012C50.35ISO	0.35	M1.6 <sub>≤</sub>	3	1.2	3	4.8	39	AH725
MTECS03016C60.4ISO	0.4	M2 <sub>≤</sub>	3	1.53	3	6	39	AH725
MTECS06016C40.4ISO	0.4	M2 <sub>≤</sub>	6	1.53	3	4.5	58	AH725
MTECS03017C70.45ISO	0.45	M2.2 <sub>≤</sub>	3	1.65	3	7	39	AH725
MTECS06017C50.45ISO	0.45	M2.2 <sub>≤</sub>	6	1.65	3	5	58	AH725
MTECS0602C50.45ISO	0.45	M2.5 <sub>≤</sub>	6	1.95	3	5.5	58	AH725
MTECS0602C70.45ISO	0.45	M2.5 <sub>≤</sub>	6	1.95	3	7.5	58	AH725
MTECS06024C60.5ISO	0.5	M3 <sub>≤</sub>	6	2.37	3	6.5	58	AH725
MTECS06024C90.5ISO	0.5	M3 <sub>≤</sub>	6	2.37	3	9.5	58	AH725
MTECS06024C90.5ISOL	0.5	M3 <sub>≤</sub>	6	2.37	3	9.5	105	AH725
MTECS03024C120.5ISO	0.5	M3 <sub>≤</sub>	3	2.4	3	12.5	39	AH725
MTECS03024C150.5ISO	0.5	M3 <sub>≤</sub>	3	2.4	3	15.5	39	AH725
MTECS06054D200.5ISO	0.5	M6 <sub>≤</sub>	6	5.35	4	20	58	AH725
MTECS06028C100.6ISO	0.6	M3.5 <sub>≤</sub>	6	2.75	3	10.5	58	AH725
MTECS06028C70.6ISO	0.6	M3.5 <sub>≤</sub>	6	2.75	3	7.5	58	AH725
MTECS06031C120.7ISO	0.7	M4 <sub>≤</sub>	6	3.1	3	12.5	58	AH725
MTECS06031C120.7ISOL	0.7	M4 <sub>≤</sub>	6	3.1	3	12.5	105	AH725
MTECS06031C160.7ISO	0.7	M4 <sub>≤</sub>	6	3.1	3	16.7	58	AH725
MTECS06031C90.7ISO	0.7	M4 <sub>≤</sub>	6	3.1	3	9	58	AH725
MTECS0808D250.75ISO	0.75	M10 <sub>≤</sub>	8	8	4	25	64	AH725
MTECS06038C120.8ISO	0.8	M5 <sub>≤</sub>	6	3.8	3	12.5	58	AH725
MTECS06038C160.8ISO	0.8	M5 <sub>≤</sub>	6	3.8	3	16	58	AH725
MTECS06038C160.8ISOL	0.8	M5 <sub>≤</sub>	6	3.8	3	16	105	AH725
MTECS06047C141.0ISO	1	M6 <sub>≤</sub>	6	4.65	3	14	58	AH725
MTECS06047C201.0ISO	1	M6 <sub>≤</sub>	6	4.65	3	20	58	AH725
MTECS06047C201.0ISOL	1	M6 <sub>≤</sub>	6	4.65	3	20	105	AH725
MTECS0606C181.25ISO	1.25	M8 <sub>≤</sub>	6	6	3	18	58	AH725
MTECS0606C241.25ISO	1.25	M8 <sub>≤</sub>	6	6	3	24	58	AH725

## MTECSH-ISO

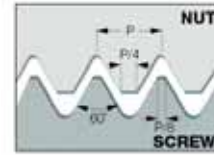
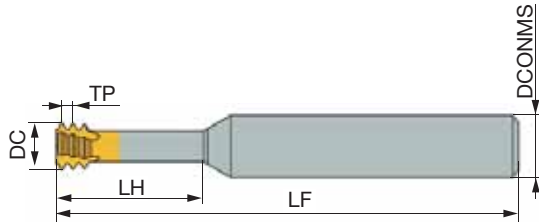
Small diameter short left-hand cutting, Solid carbide internal ISO metric profile,  
Threading endmills for hardened steel, Without coolant hole



Designation	Pitch	Application range	DCONMS	DC	Number of flutes	LH	LF	Grade
MTECSH03012C50.35ISO	0.35	M1.6 $\leq$	3	1.2	3	4.8	39	AH750
MTECSH03016C60.4ISO	0.4	M2 $\leq$	3	1.55	3	6	39	AH750
MTECSH06016C40.4ISO	0.4	M2 $\leq$	6	1.55	3	4.5	58	AH750
MTECSH06017C50.45ISO	0.45	M2.2 $\leq$	6	1.65	3	5	58	AH750
MTECSH0602C50.45ISO	0.45	M2.5 $\leq$	6	1.95	3	5.5	58	AH750
MTECSH0602C70.45ISO	0.45	M2.5 $\leq$	6	1.95	3	7.5	58	AH750
MTECSH06024C60.5ISO	0.5	M3 $\leq$	6	2.35	3	6.5	58	AH750
MTECSH06024C90.5ISO	0.5	M3 $\leq$	6	2.35	3	9.5	58	AH750
MTECSH06028C70.6ISO	0.6	M3.5 $\leq$	6	2.75	3	7.5	58	AH750
MTECSH06031C120.7ISO	0.7	M4 $\leq$	6	3.1	3	12.5	58	AH750
MTECSH06038C120.8ISO	0.8	M5 $\leq$	6	3.8	3	12.5	58	AH750
MTECSH06047C141.0ISO	1	M6 $\leq$	6	4.65	3	14	58	AH750
MTECSH06047C201.0ISO	1	M6 $\leq$	6	4.65	3	20	58	AH750
MTECSH0606C181.25ISO	1.25	M8 $\leq$	6	5.95	3	18	58	AH750
MTECSH0606C241.25ISO	1.25	M8 $\leq$	6	5.95	3	24	58	AH750

## MTECS-UN

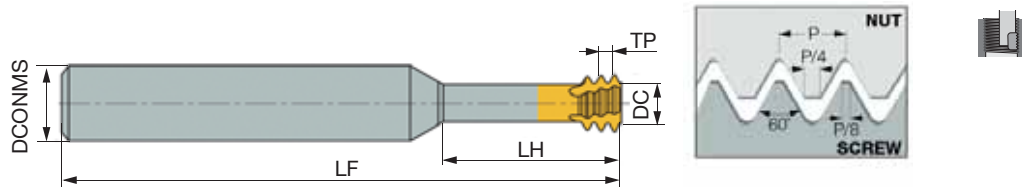
Small diameter solid carbide UN, Profile threading endmills for steel, Without coolant hole



Designation	TPI	Application range		DCONMS	DC	Number of flutes	LH	LF	Grade
		UNC	UNF						
MTECS03012C880UN	80	-	#0	3	1.15	3	8	39	AH725
MTECS03015C672UN	72	-	#1	3	1.45	3	6	39	AH725
MTECS06016C656UN	56	#2	#3	6	1.65	3	6.6	58	AH725
MTECS06016C456UN	56	#2	#3	6	1.65	3	4.4	58	AH725
MTECS06019C548UN	48	#3	#4	6	1.9	3	5.2	58	AH725
MTECS03021C1240UN	40	#4	-	3	2.1	3	12	39	AH725
MTECS06021C840UN	40	#4	-	6	2.1	3	8	58	AH725
MTECS06024C940UN	40	#5	#6	6	2.45	3	9.6	58	AH725
MTECS06021C640UN	40	#4	-	6	2.1	3	6.3	58	AH725
MTECS06033C936UN	36	-	#8	6	3.3	3	9	58	AH725
MTECS06025C732UN	32	#6	-	6	2.55	3	7.1	58	AH725
MTECS06025C1032UN	32	#6	-	6	2.55	3	10.5	58	AH725
MTECS06032C932UN	32	#8	#10	6	3.2	3	9.5	58	AH725
MTECS06032C1232UN	32	#8	#10	6	3.2	3	12.5	58	AH725
MTECS06037C1032UN	32	-	#10	6	3.7	3	10.5	58	AH725
MTECS06037C1532UN	32	-	#10	6	3.7	3	15	58	AH725
MTECS0605C1428UN	28	-	1/4	6	5	3	14.5	58	AH725
MTECS0605C1928UN	28	-	1/4	6	5	3	19	58	AH725
MTECS06047C1420UN	20	1/4	-	6	4.75	3	14	58	AH725
MTECS06047C1920UN	20	1/4	-	6	4.75	3	19	58	AH725
MTECS06047C1920UN-L	20	1/4	-	6	4.75	3	19	105	AH725
MTECS0606C1718UN	18	5/16	-	6	6	3	17	58	AH725
MTECS0606C2318UN	18	5/16	-	6	6	3	23	58	AH725

## MTECSH-UN

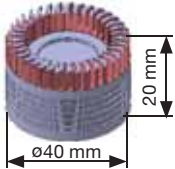
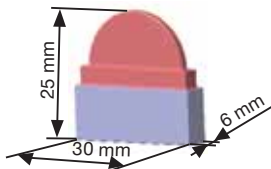
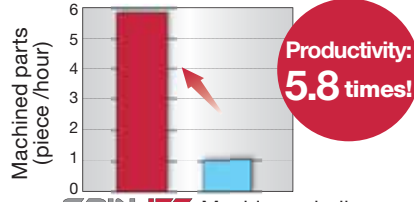
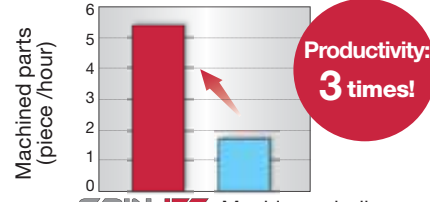
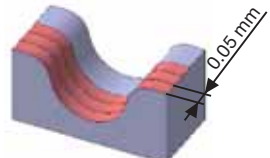
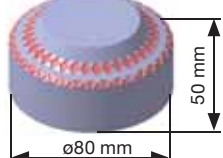
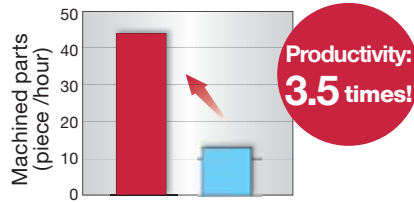
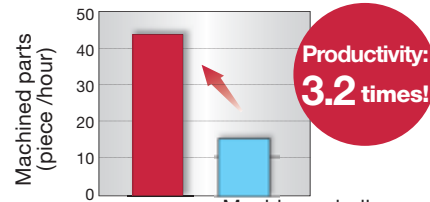
Small diameter short left-hand cutting, Solid carbide UN profile threading,  
Endmills for hardened steel, Without coolant hole



Designation	TPI	Application range		DCONMS	DC	Number of flutes	LH	LF	Grade
		UNC	UNF						
MTECSH06012C480UN	80	-	#0	6	1.15	3	4	58	AH725
MTECSH06016C656UN	56	#2	#3	6	1.65	3	6.6	58	AH725
MTECSH06019C548UN	48	#3	#4	6	1.9	3	5.2	58	AH725
MTECSH06021C640UN	40	#4	-	6	2.1	3	6.3	58	AH725
MTECSH06024C740UN	40	#5	#6	6	2.45	3	7	58	AH725
MTECSH06021C840UN	40	#4	-	6	2.1	3	8	58	AH725
MTECSH06024C940UN	40	#5	#6	6	2.45	3	9.6	58	AH725
MTECSH06025C1032UN	32	#6	-	6	2.55	3	10.5	58	AH725
MTECSH06032C932UN	32	#8	-	6	3.2	3	9.5	58	AH725
MTECSH06037C1032UN	32	-	#10	6	3.7	3	10.5	58	AH725
MTECSH06037C1532UN	32	-	#10	6	3.7	3	15	58	AH725
MTECSH06042C1128UN	28	-	#12	6	4.2	3	11	58	AH725
MTECSH0605C1428UN	28	-	1/4	6	5	3	14.5	58	AH725
MTECSH06035C1024UN	24	#10-#12	-	6	3.5	3	10.6	58	AH725
MTECSH06047C1920UN	20	1/4	-	6	4.75	3	19	58	AH725
MTECSH0606C1718UN	18	5/16	-	6	6	3	17	58	AH725
MTECSH0606C2318UN	18	5/16	-	6	6	3	23	58	AH725



## PRACTICAL EXAMPLES

Workpiece type		Machine parts	Electrode	
Holder		TJSGJETST20	TJSGJETST20	
Endmill		TEB010A2-015/12C4M45 (ø1.0, z = 2)	TEB010A2-015/12C4M45 (ø1.0, z = 2)	
Grade		AH750	AH750	
Workpiece material		SUS303 / X10CrNiS18-9 (25HRC)	C1100	
				
Cutting conditions	Cutting speed: $V_c$ (m/min)	120	95	
	No. of revolutions: $n$ (RPM)	45,600	40,000	
	Feed per tooth: $f_z$ (mm/t)	0.016	0.025	
	Depth of cut: $a_p$ (mm)	0.01	0.04	
	Width of cut: $a_e$ (mm)	1	0.04	
	Process	Grooving	Profiling	
	Coolant	Wet	Wet	
	Machine	Vertical M/C, BT30	Vertical M/C, BT30	
Results	 <p>Productivity: <b>5.8 times!</b></p> <p>SPINJET Machine spindle Productivity increased by 5.8 times due to high-speed rotation of 45,600 RPM. Tool life is also tripled.</p>		 <p>Productivity: <b>3 times!</b></p> <p>SPINJET Machine spindle Productivity increased by 3 times due to high-speed rotation of 40,000 RPM.</p>	
Workpiece type		Medical equipment	Plastic mold	
Holder		TJSGJETST32	TJSGJETST20	
Endmill		TEB010A2-015/12C4M45 (ø1.0, z = 2)	TEB010A2-015/04C4M45 (ø1.0, z = 2)	
Grade		AH750	AH750	
Workpiece material		Titanium alloys	V2 (60HRC)	
				
Cutting conditions	Cutting speed: $V_c$ (m/min)	80	91	
	No. of revolutions: $n$ (RPM)	35,000	39,000	
	Feed per tooth: $f_z$ (mm/t)	0.03	0.027 - 0.051	
	Depth of cut: $a_p$ (mm)	0.03	0.02	
	Width of cut: $a_e$ (mm)	0.05	0.02	
	Process	Profiling	Profiling	
	Coolant	Wet	Wet	
	Machine	Vertical M/C, BT30	Vertical M/C, BT30	
Results	 <p>Productivity: <b>3.5 times!</b></p> <p>SPINJET Machine spindle Productivity increased by 3.5 times due to high-speed rotation of 35,000 RPM. Tool life is also extended by 4 times.</p>		 <p>Productivity: <b>3.2 times!</b></p> <p>SPINJET Machine spindle Productivity increased by 3.2 times due to high-speed rotation of 39,000 RPM.</p>	

## Inquiry form for applicability

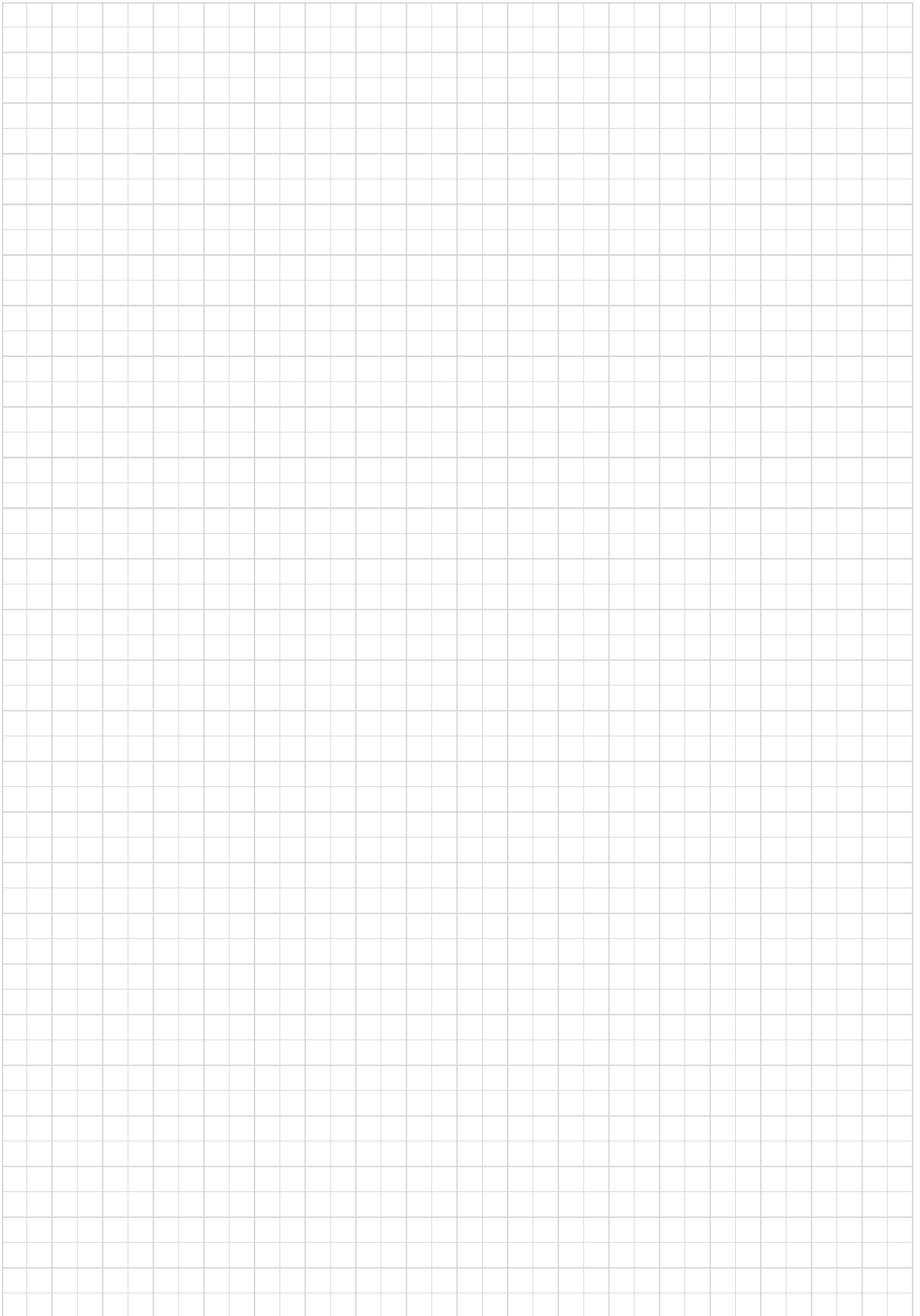
Company \_\_\_\_\_

\*Required

Check item	Answer	Note	
Machine tool	Maker / Model*		
	Max. revolution		
	Type of main spindle chucking*		For BT50, please check if it has a programming pre-read function.
	Through coolant*	Possible / Not possible	
	Coolant		
	Coolant pressure* (MPa)		Need to be 2 - 4 MPa
	Coolant filtration* ( $\mu\text{m}$ )		Need to be $\leq 100 \mu\text{m}$ (Recommendation : $\leq 50 \mu\text{m}$ ) *With grinding wheel : $\leq 10 \mu\text{m}$
Work material	Work material		
Application	Application*	Ex. Endmilling, drilling, etc.	
Cutting Tool	Tool diameter* (mm)	Endmill : $\leq \phi 3.5$ Drill : $\leq \phi 2$ (Need step drilling)	
	Shank diameter* (mm)	Need to be $\leq \phi 6$	
Current cutting condition	Cutting speed $V_c$ (m/min)		
	Number of revolutions $n$ ( $\text{min}^{-1}$ )		
	Feed $f$ (mm/rev)		
	Feed per tooth $f_z$ (mm/t)		
	Feed speed $V_f$ (mm/min)		
	Depth of cut $a_p$ (mm)		
	Width of cut $a_e$ (mm)		

Remarks (Desired cutting condition, request, etc.)

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