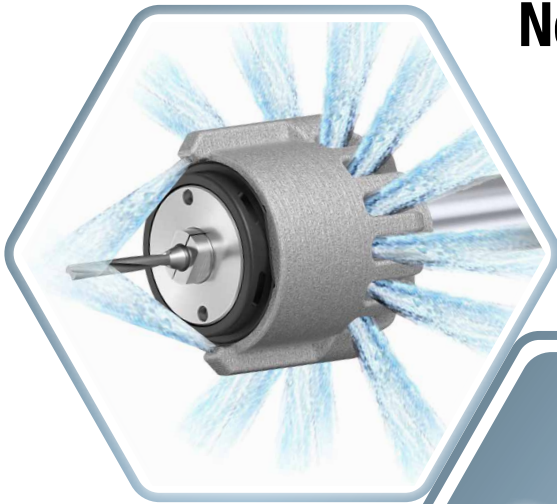


NPN

New Product News



New High-Pressure Coolant Powered Micro 00 Spindle



KEY POINT

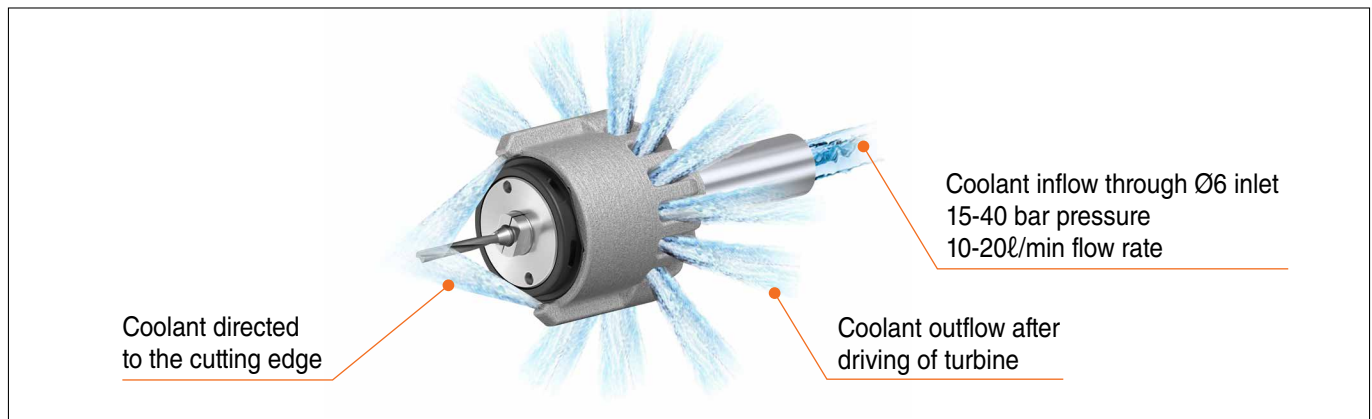
TaeguTec has launched a high-pressure coolant powered, TYPHOON Micro 00 spindle.

The TYPHOON Micro 00 spindle, powered by the machine's internal coolant driven system, is a 40,000 rpm high rotational tooling solution. Comprised of only six components, it is capable of accurate machining in difficult-to-reach spaces characterized by Swiss-type machines.

Features

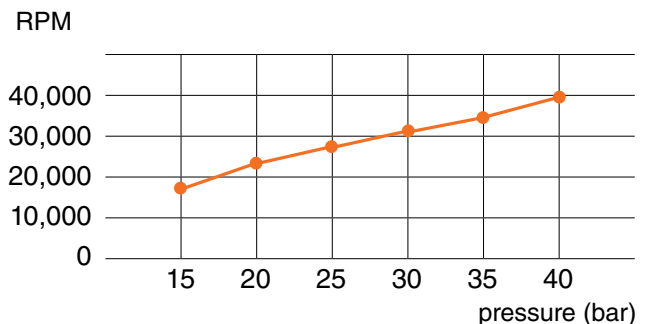
- Minimum 15 bar high-pressure coolant capable spindle
- Powerful internal coolant system (18,000-40,000 rpm)
- Rigid and compact for excellent machining in difficult-to-reach space machining operations
- Suitable for small diameter semi-finishing and finishing applications (Ø3 mm or less)

TYPHOON Micro 00 Coolant Flow



Spindle RPM according to coolant pressure

Pressure (bar)	RPM
15	18,000
20	23,000
25	27,000
30	31,000
35	34,000
40	40,000



Cutting speed (Vc) by tool diameter

*For general cutting speeds while using small diameter tools, higher RPMs are required.

(unit: m/min)

Tool diameter (mm)	RPM					
	18,000	23,000	27,000	31,000	34,000	40,000
1.0	57	72	85	97	107	126
2.0	113	145	170	195	214	251
3.0	170	217	254	292	320	377

B.O.M.

Item	Designation	Q'ty
Spindle	TJS M00-3.0	1
Collet	TJS-COLLET 3.0	1
Lock key	TJS MJ-SHAFT-LOCK	1
Wrench	TJS MJ-WRENCH-COLLET	1
Nozzle	TJS MJ-PLUG COOLANT	1

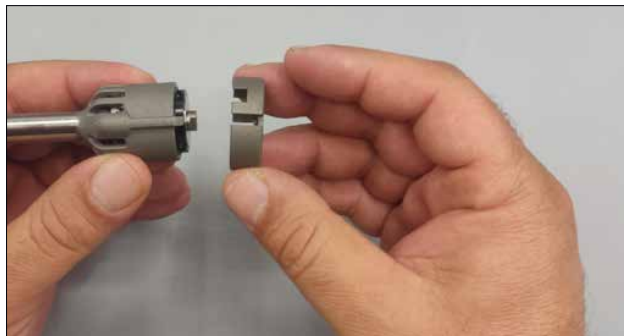
Micro 00 Collets

Designation	Tool diameter
TJS-COLLET 1.6	Ø1.6
TJS-COLLET 2.0	Ø2.0
TJS-COLLET 3.0	Ø3.0

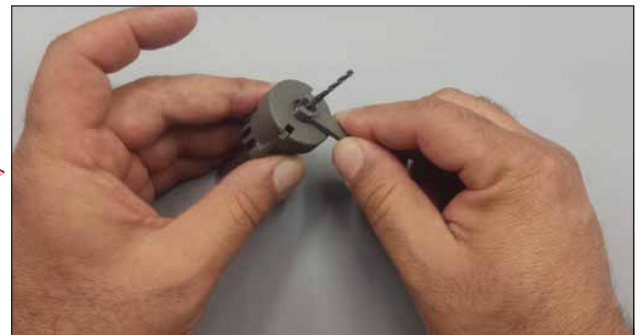
Collets except Ø3.0 are purchased separately.



Instructions



① Hold the spindle with the lock key so that the shaft does not rotate



② After inserting the tool into the collet, tighten the collet to secure it



③ Remove the lock key and use the tool assembled Micro 00 spindle

TYPHOON operating instructions

The TYPHOON must be stationary when not in use. To avoid machine spindle rotation when the TYPHOON is in operation, input the correct M code to lock the spindle's orientation.

e.g., "M19" code locks the spindle in a defined angular position.

Machine requirements

1. Machine spindle coolant flow through (pressure range: 15-40 bar)
2. Minimum coolant flow rate: 10 ℓ/min
3. Minimum coolant filtration level: 100 µm
4. Active mist collector
5. With emulsion coolant, use an anti-foaming agent additive to prevent foaming
6. With oil-based coolant, use anti-dissolution additive suitable for oil

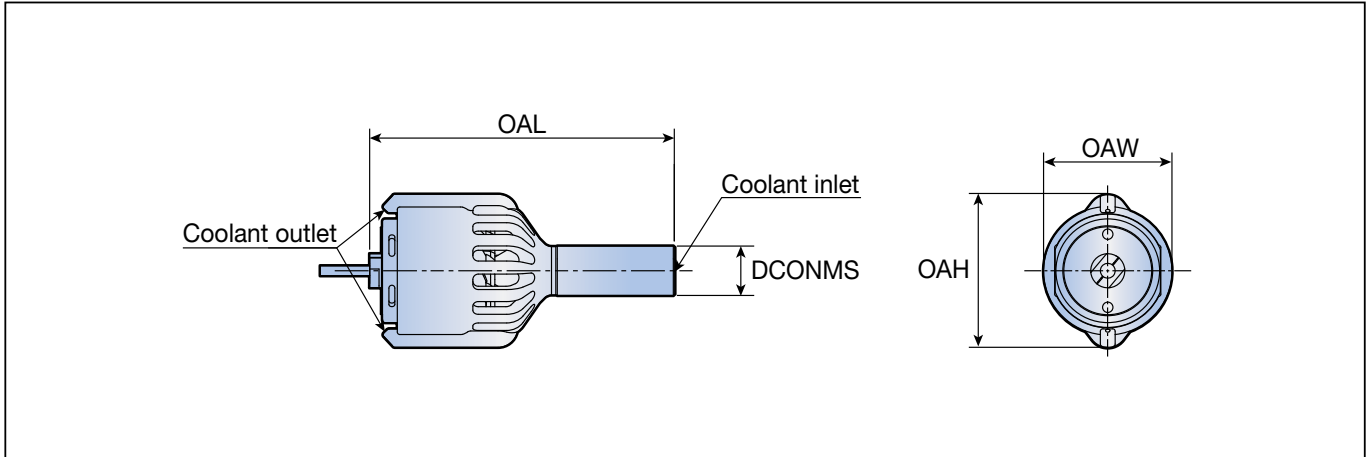
Permissible cutting conditions

Tool	Application	Permissible cutting conditions
End mill	Slotting	Max Ø3 / Ap : 0.05xD
	Shouldering	Max Ø3 / Ap : 0.1xD / Ae : 0.1xD
Ball type end mill	Profiling	Max Ø3 / Ap : 0.25mm
Drill	Drilling	Max Ø2
Thread mill	Threading	Max M3



TJS M00

Coolant driven high-speed compact spindle



Designation	Dimension (mm)				
	DCONMS	LS	OAL	OAH	OAW
TJS M00-3.0	10	23.8	61.8	26	31

- Coolant pressure: 15-40 bar and flow rate: 10-20 ℓ/min
- Rotational spindle speed: 18,000–40,000 rpm
- The spindle provides only external strong coolant jet around the tool

Spare parts

Designation	Ø3 collet	Lock key	Wrench	Nozzle	Ø1.6 collet*	Ø2 collet*
TJS M00-3.0	TJS-COLLET 3.0	TJS MJ-SHAFT-LOCK	TJS MJ-WRENCH-COLLET	TJS MJ-PLUG-COOLANT	TJS-COLLET 1.6	TJS-COLLET 2.0

* Optional, sold separately

Recommended Cutting Conditions

ISO	Material	Tool	Application	Tool diameter (mm)	Coolant pressure (bar)	Spindle speed (rev/min)	Cutting width (mm)	Depth of cut (mm)	Feed (mm/teeth)		
M	Stainless steel HB 180-250	Drill	Drilling	0.5	15	18000	-	-	0.015		
					20	23000	-	-	0.015		
					30	31000	-	-	0.015		
					40	40000	-	-	0.015		
				1.0	15	18000	-	-	0.015		
					20	23000	-	-	0.015		
					30	31000	-	-	0.015		
					40	40000	-	-	0.015		
				2.0	15	18000	-	-	0.015		
					20	23000	-	-	0.015		
					30	31000	-	-	0.015		
					40	40000	-	-	0.015		
		End mill	Slotting	1.0	15	18000	1.00	0.10	0.015		
					20	23000	1.00	0.10	0.015		
					30	31000	1.00	0.15	0.015		
					40	40000	1.00	0.15	0.015		
				2.0	15	18000	2.00	0.15	0.015		
					20	23000	2.00	0.15	0.015		
					30	31000	2.00	0.15	0.015		
					40	40000	2.00	0.20	0.015		
				Shouldering	2.0	15	18000	0.35	0.15	0.020	
						20	23000	0.35	0.15	0.020	
						30	31000	0.40	0.15	0.020	
						40	40000	0.50	0.18	0.025	
N	Aluminium alloy HB 80-160	Drill	Drilling	0.5	15	18000	-	-	0.010		
					20	23000	-	-	0.010		
					30	31000	-	-	0.010		
					40	40000	-	-	0.010		
				1.0	15	18000	-	-	0.010		
					20	23000	-	-	0.010		
					30	31000	-	-	0.010		
					40	40000	-	-	0.010		
				2.0	15	18000	-	-	0.015		
					20	23000	-	-	0.015		
					30	31000	-	-	0.017		
					40	40000	-	-	0.018		
				Ball type end mill	Profiling	1.0	15	18000	-	0.05	0.003
							20	23000	-	0.05	0.003
							30	31000	-	0.05	0.003
							40	40000	-	0.13	0.003
		2.0	15			18000	-	0.08	0.004		
			20			23000	-	0.08	0.004		
			30			31000	-	0.08	0.004		
			40			40000	-	0.15	0.004		
		3.0	15			18000	-	0.08	0.006		
			20			23000	-	0.09	0.006		
			30			31000	-	0.09	0.006		
			40			40000	-	0.15	0.006		

Stainless steel
 Nonferrous

Recommended Cutting Conditions

ISO	Material	Tool	Application	Tool diameter (mm)	Coolant pressure (bar)	Spindle speed (rev/min)	Cutting width (mm)	Depth of cut (mm)	Feed (mm/teeth)		
N	Aluminium alloy HB 80-160	End mill	Slotting	1.0	15	18000	1.00	0.10	0.025		
					20	23000	1.00	0.10	0.025		
					30	31000	1.00	0.15	0.025		
					40	40000	1.00	0.15	0.025		
				2.0	15	18000	2.00	0.20	0.025		
					20	23000	2.00	0.20	0.025		
					30	31000	2.00	0.20	0.025		
					40	40000	2.00	0.20	0.025		
			Shouldering	2.0	15	18000	0.50	0.25	0.020		
					20	23000	0.50	0.25	0.020		
					30	31000	0.50	0.50	0.020		
					40	40000	0.50	0.50	0.025		
H	Alloy steel HRC 35	Drill	Drilling	0.5	15	18000	-	-	0.007		
					20	23000	-	-	0.010		
					30	31000	-	-	0.010		
					40	40000	-	-	0.010		
				1.0	15	18000	-	-	0.010		
					20	23000	-	-	0.010		
					30	31000	-	-	0.010		
					40	40000	-	-	0.010		
				2.0	15	18000	-	-	0.010		
					20	23000	-	-	0.010		
					30	31000	-	-	0.010		
					40	40000	-	-	0.010		
				Ball type end mill	Profiling	1.0	15	18000	-	0.05	0.003
							20	23000	-	0.05	0.003
							30	31000	-	0.05	0.003
							40	40000	-	0.05	0.003
						2.0	15	18000	-	0.08	0.004
							20	23000	-	0.08	0.004
							30	31000	-	0.08	0.004
							40	40000	-	0.08	0.004
						3.0	15	18000	-	0.10	0.006
							20	23000	-	0.10	0.006
							30	31000	-	0.10	0.006
							40	40000	-	0.10	0.006
		End mill	Slotting	1.0	15	18000	1.00	0.10	0.006		
					20	23000	1.00	0.10	0.006		
					30	31000	1.00	0.10	0.006		
					40	40000	1.00	0.15	0.006		
				2.0	15	18000	2.00	0.12	0.010		
					20	23000	2.00	0.12	0.010		
					30	31000	2.00	0.14	0.010		
					40	40000	2.00	0.14	0.010		
				3.0	15	18000	3.00	0.12	0.010		
					20	23000	3.00	0.12	0.010		
					30	31000	3.00	0.12	0.010		
					40	40000	3.00	0.12	0.010		
			15		18000	3.00	0.15	0.010			
			20		23000	3.00	0.15	0.010			
			30		31000	3.00	0.15	0.010			
			40		40000	3.00	0.15	0.010			
			Shouldering	2.0	15	18000	0.50	0.50	0.002		
					20	23000	0.50	0.50	0.014		
					30	31000	0.50	0.50	0.017		
					40	40000	0.50	0.50	0.018		

■ Nonferrous ■ Hardened steel