

SC 50124

speed range: 5 000 to 30 000 rpm

torque: 3.5 N-m [31 in-lb]

power: 11 kW [14.7 hp]

tool interface: HSK 40-E toolholder

High-speed / High-precision Ø120 mm Spindle

- HSK 40-E taper toolholder system
- Grease lubrication
- Tool-in-position sensors standard
- Bearing labyrinth air-seal standard
- Taper air purge standard



(spindle shown with optional mounting flange)



SC 50124 Series Standard Equipment:

- Documentation kit
 - 1 outline drawing
 - 1 warranty registration card (#176991)
 - 1 safety instruction (#329139)
 - 1 operating instructions (#512005)
- Cleaning / Wrench kit
 - 1 HSK 40 taper wiper (#018009)
 - 1 32mm open-end wrench (#412576)
 - 1 SRP 25 spanner wrench (#412640)
 - 1 SRP 25 taper wiper (#412664)
 - 1 round cleaning brush (#477450)
 - 1 straight cleaning brush (#477451)

SC 50124 Series Accessories (ordered separately):

Spindle System Components:

- [Type PCA2 3045 frequency converter](#)
- [Type RCS 2304 refrigerated cooling system](#)
- [Type 9120 plane mount](#)

Toolholder:

- [Type ATC 4-40-25 toolholder \(HSK 40-E\)](#), Catalog #412638.

SRP 25 Collets:

2mm	412722	10mm	412730	1/8"	412762
3mm	412723	11mm	412731	3/16"	412763
4mm	412724	12mm	412732	1/4"	412764
5mm	412725	13mm	412733	5/16"	412765
6mm	412726	14mm	412734	3/8"	412766
7mm	412727	15mm	412735	7/16"	412767
8mm	412728	16mm	412736	1/2"	412768
9mm	412729			5/8"	412770

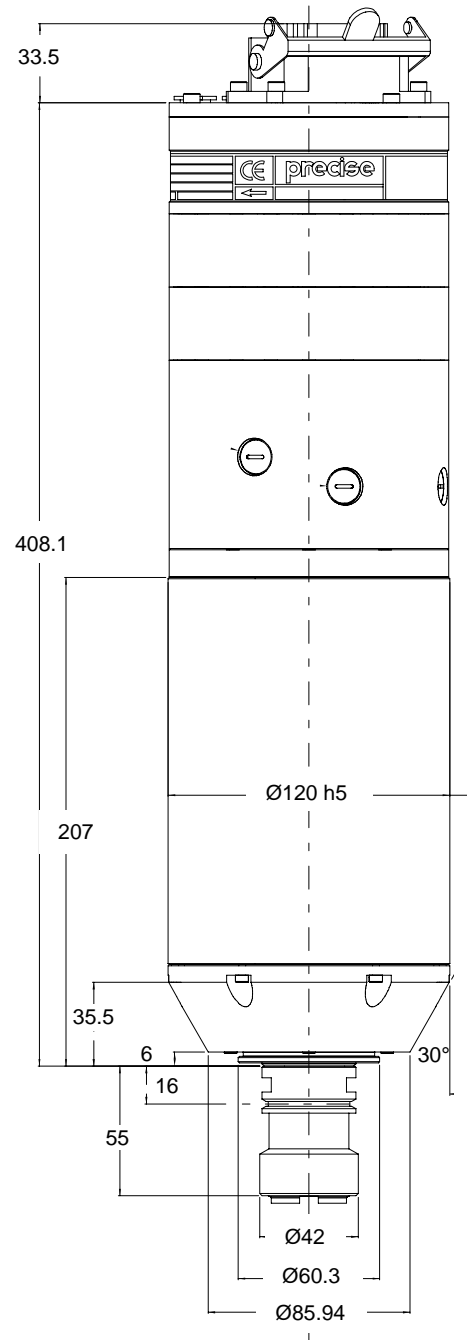
Contact **precise** for sizes not listed.

Installation kits:

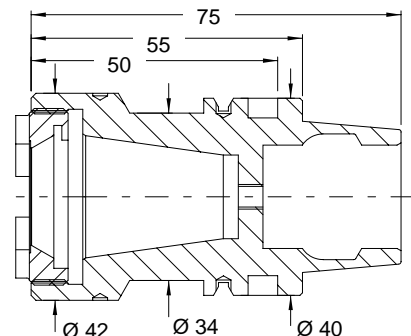
- Filter / Regulator Kit #329492 (for labyrinth air-seal and ATC functions)
- Base Tubing Kit #411681 (for liquid cooling and labyrinth air-seal connections)
- ATC Tubing Kit #411682 (for ATC connections)

Extension Cables (1 meter cable length standard):

- 3m [9.6 ft] extension cable
- 5m [16 ft] extension cable



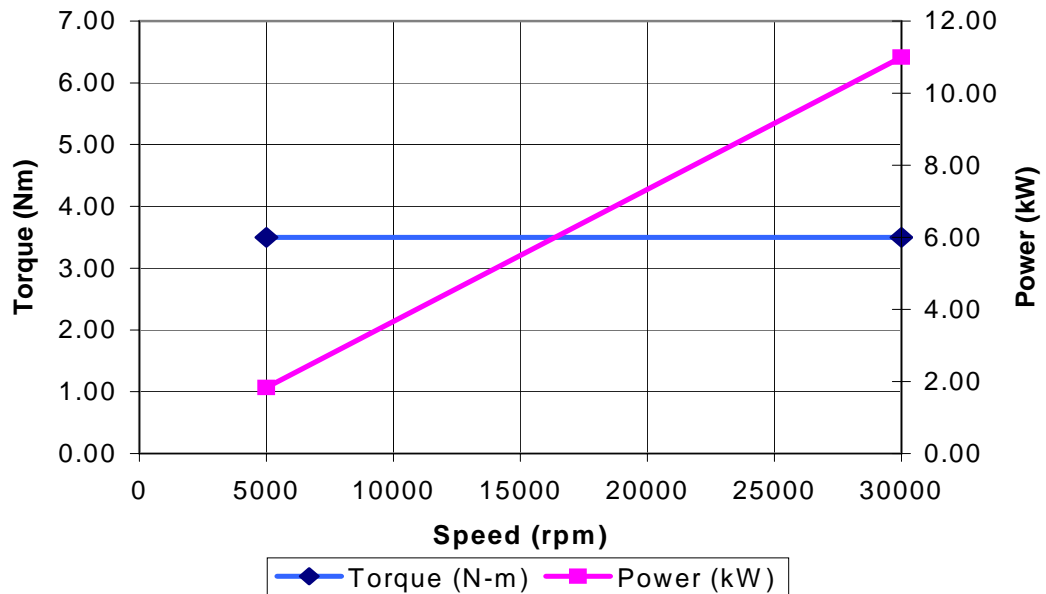
ATC 4-40-25 toolholder assembly, Cat. #412638



SC 50124 Technical Specifications:

TYPE	SC 50124
MOTOR	
Speed Range	5 000 to 30 000 rpm
Torque (S1 – 100%)	3.5 N-m [31 in-lb]
Power (S1 – 100%)	11 kW [14.7 hp]
Frequency Range	167 to 1,000 Hz
Voltage Range	88 to 400 VAC
Maximum Amperage	25 amps
Motor Type	AC asynchronous, 3-phase induction motor
SPINDLE DRIVE	
Drive Type	precise Type PCA2 3045 frequency converter
BEARINGS	
Bearings	Four (4) angular-contact, hybrid-ceramic bearings, ABEC 7/9 precision
Mounting	Front and rear duplex sets, mounted in "O" arrangement with shaft length compensation to provide constant spring pre-load
Lubrication	Permanent grease lubrication
Bearing labyrinth air seal	0.5 bar [7 psi] positive air pressure at bearing seal to prevent bearing contamination
SHAFT DATA	
Stiffness at spindle nose	Axial: 45 N/μm [259,000 lb/in] Radial: 90 N/μm [519,000 lb/in]
Runout Accuracy	≤ 2 μm [0.00008"] radial runout in spindle taper.
Balance Quality	≤ 1 mm/sec radial vibration velocity at maximum rpm
SPINDLE COOLING	
Cooling	Liquid (1 part Dowtherm [®] SR1 to 2 parts distilled water) circulation at 24°C +/- 1°C [75 °F] through spindle housing using precise Type 2304 Refrigerated Cooling System .
TOOL CLAMPING	
Toolholder interface	HSK 40-E clamping system with spring-loaded drawbar
Spring Retention	4,000 N [899 lb]
HSK Clamping Force	11,000 N [2473 lb]
Toolchange (ATC)	Built-in pneumatic release cylinder, 5.5 bar [80 psi] minimum air pressure required
Toolholder Type	precise Type ATC 4-40-25 toolholder
Collets	precise Type SRP 25 collets (16mm, 5/8" maximum collet capacity)
Taper Air Purge	0.3 – 0.5 bar [4 – 7 psi] air blast through taper
SENSORS	
Motor Protection	PTC thermistor in stator
Tool-In-Position	Four (4) PNP proximity sensors to detect toolholder position and release-cylinder position
CONNECTIONS	
	<ul style="list-style-type: none"> • liquid cooling (2 x Ø8mm tubes) • labyrinth air seal (1 x Ø6mm tube) • taper purge (1 x Ø6mm tube) • ATC (1 x Ø6mm tube) • power cable
MOUNTING / WEIGHT	
Mounting Diameter	Ø 120 mm h5 [4.7244" +0, -0.0006"]
Mount Type	precise Type 9120 plane mount . (spindles can also be special ordered for flange-mounting)
Net Weight	22.5 kg [50 lb]

SC 50124 Power / Torque Curves (S1-100%)



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