

# VSC 50124

- speed range:** 300 to 30 000 rpm
- torque:** 3.5 N-m [31 in-lb]
- power:** 11 kW [14.7 hp]
- tool interface:** HSK 40-E toolholder

**NEW**

***Vector-controlled motor  
in Ø 120 mm Spindle for  
Constant Torque Output***

- High-torque, vector-controlled motor
- Constant torque down to 300 rpm
- HSK 40-E taper toolholder system
- Grease lubrication
- Tool-in-position sensors standard



(spindle shown with optional mounting flange)

Vector Motor Technology





### VSC 50124 Standard Equipment:

- Documentation kit
  - 1 outline drawing
  - 1 warranty registration card
  - 1 safety instruction
  - 1 operating instructions
- 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)

### VSC 50124 Accessories (ordered separately):

#### Spindle System Components:

- [Type PSVA 3045 frequency converter](#)
- [Type RCS 2304 refrigerated cooling](#)
- [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

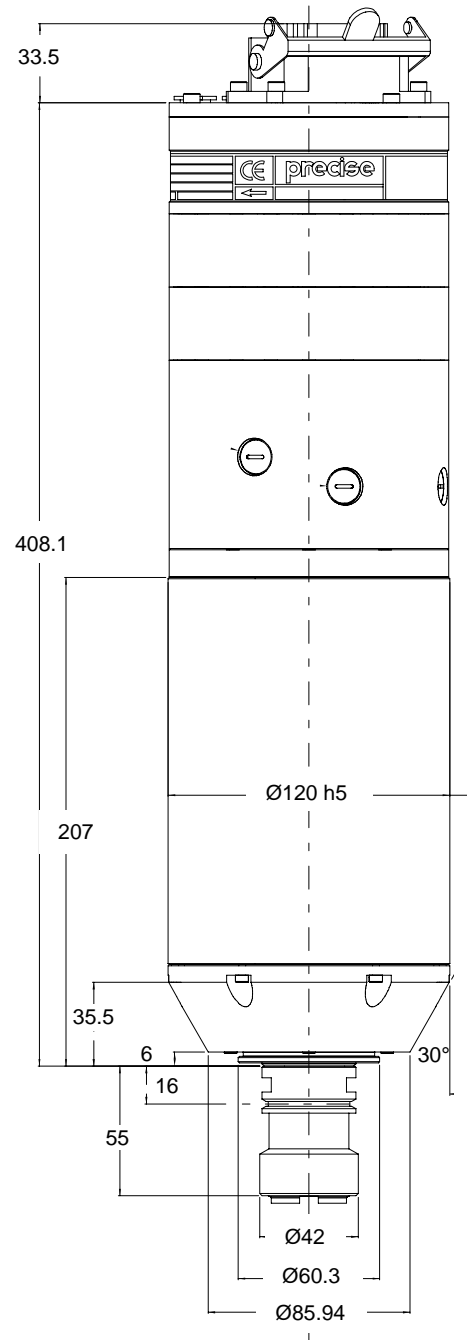
Contact **precise** for sizes not listed.

#### Installation kits:

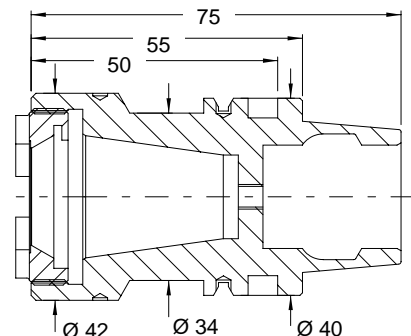
- Filter / Regulator Kit #329492 (for labyrinth air-seal and ATC functions)
- Base Tubing Kit #411681 (for liquid cooling and labyrinth air-seal connections)
- ATC Tubing Kit #411682 (for ATC connections)

#### Extension Cables (1 meter cable length standard):

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



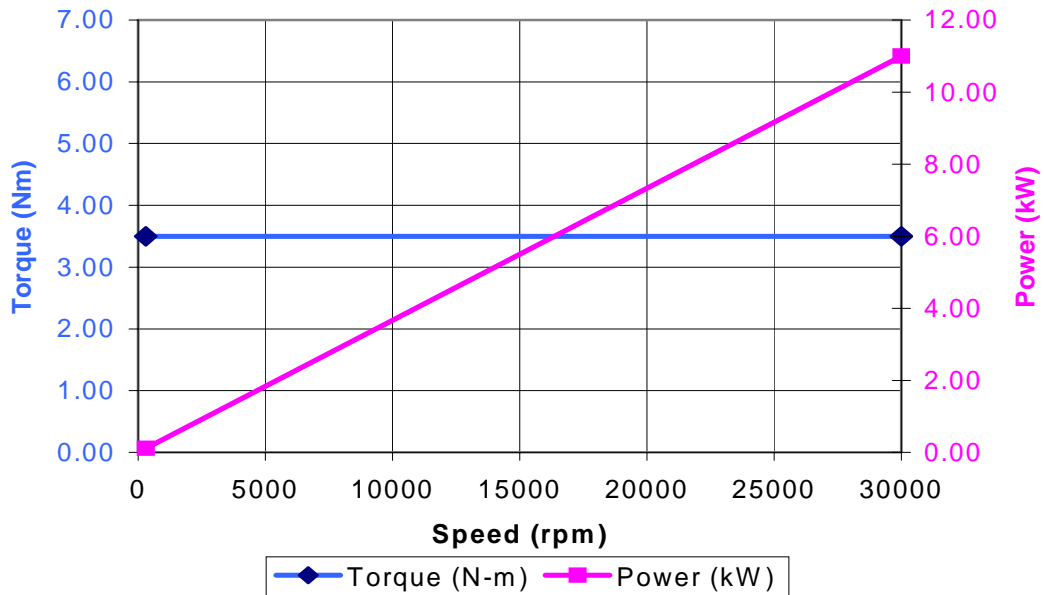
ATC 4-40-25 toolholder assembly, Cat. #412638



## VSC 50124 Technical Specifications:

TYPE	VSC 50124
<b>MOTOR</b>	
Speed Range	300 to 30 000 rpm
Torque (S1 – 100%)	3.5 N-m [31 in-lb]
Power (S1 – 100%)	11 kW [14.7 hp]
Max. Frequency	1,000 Hz
Max. Voltage	400 VAC
Maximum Amperage	25 amps
Motor Type	AC asynchronous, 3-phase induction motor
<b>SPINDLE DRIVE</b>	
Drive Type	<a href="#">precise Type PSVA 3045 flux-vector frequency converter</a>
<b>BEARINGS</b>	
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
<b>SHAFT DATA</b>	
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
<b>SPINDLE COOLING</b>	
Cooling	Liquid (1 part Dowtherm <sup>®</sup> SR1 to 2 parts distilled water) circulation at 24°C +/- 1°C [75 °F] through spindle housing using <a href="#">precise Type 2304 Refrigerated Cooling System</a> .
<b>TOOL CLAMPING</b>	
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	<a href="#">precise Type ATC 4-40-25 toolholder</a>
Collets	<a href="#">precise Type SRP 25</a> collets (16mm, 5/8" maximum collet capacity)
Taper Air Purge	0.3 – 0.5 bar [4 – 7 psi] air blast through taper
<b>SENSORS</b>	
Motor Protection	PTC thermistor in stator
Tool-In-Position	Four (4) PNP proximity sensors to detect toolholder position and release-cylinder position
<b>CONNECTIONS</b>	
	<ul style="list-style-type: none"> <li>• liquid cooling (2 x Ø8mm tubes)</li> <li>• labyrinth air seal (1 x Ø6mm tube)</li> <li>• taper purge (1 x Ø6mm tube)</li> <li>• ATC (1 x Ø6mm tube)</li> <li>• power cable</li> <li>• encoder cable</li> </ul>
<b>MOUNTING / WEIGHT</b>	
Mounting Diameter	Ø 120 mm h5 [4.7244" +0, -0.0006"]
Mount Type	<a href="#">precise Type 9120 plane mount</a> (spindles can also be special ordered for flange-mounting)
Net Weight	23 kg [51 lb]

**VSC 50124 Power / Torque Curves (S1-100%)**



**The Precise Corporation**

3715 Blue River Ave.  
P.O. Box 085000  
Racine, WI 53408-5000 USA  
Phone: +1 (262) 632-6173  
Fax: +1 (262) 632-6730  
e-mail: [precise@precise-corp.com](mailto:precise@precise-corp.com)  
[www.precise-corp.com](http://www.precise-corp.com)



**Precise Präzisionsspindeln GmbH**

Am Wallgraben 2 • D-42799 Leichlingen, Germany  
Postfach 1461 • D-42785 Leichlingen  
Telefon: +49 (0 21 75) 9 71 0  
Telefax: +49 (0 21 75) 9 71 99, 9 71 97  
e-mail: [precise@precise.de](mailto:precise@precise.de)  
[www.precise.de](http://www.precise.de)