

SC 50102 Series – #25 taper

30 000 rpm – 7 kW [9.4 hp]

40 000 rpm – 8 kW [10.7 hp]



Ø 100 mm Spindle with Power And Precision

- #25 taper toolholder system
- Grease and Oil-Air lubrication options
- Vector-controlled motor option, for low-speed capabilities and oriented stop
- Tool-in-position sensors standard
- Bearing labyrinth air-seal standard
- Taper air purge standard



SC 50102 Series Standard Equipment:

- Documentation kit
 - 1 operating instructions (#331969)
 - 1 safety instructions (#329139)
 - 1 warranty registration card (#176991)
 - 1 outline drawing
- Cleaning / Wrench kit
 - 1 SRP 20 spanner wrench (#411511)
 - 1 #25 taper socket-wrench (#412658)
 - 1 SRP 20 taper wiper (#412663)
 - 1 SRP 25 taper wiper (#412664)
 - 1 round cleaning brush (#477450)
 - 1 straight cleaning brush (#477451)

SC 50102 Series Accessories (ordered separately):

Spindle System Components:

- [Type PCA2 2030 frequency converter](#)
- [Type RCS 2304 refrigerated cooling system](#)
- [Type PSVA 3045 flux-vector frequency converter](#) (Types "VSC" only)
- [Type POAL-4 oil-air lubrication system](#) ("–OA")
- [Type 9100 plane mount](#)

Toolholders:

- [Type ATC 2-25-20](#), Cat. #411630

SRP 20 Collets:

3mm	410743	10mm	410750	1/8"	410782
4mm	410744	11mm	410751	3/16"	410783
5mm	410745	12mm	410752	1/4"	410784
6mm	410746	Consult precise for sizes not listed		5/16"	410785
7mm	410747			3/8"	410786
8mm	410748			7/16"	410787
9mm	410749			1/2"	410788

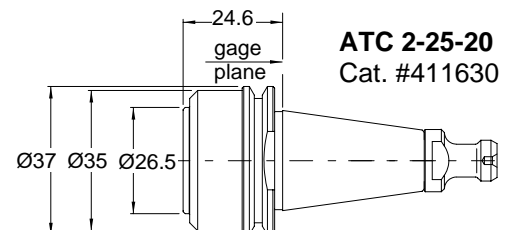
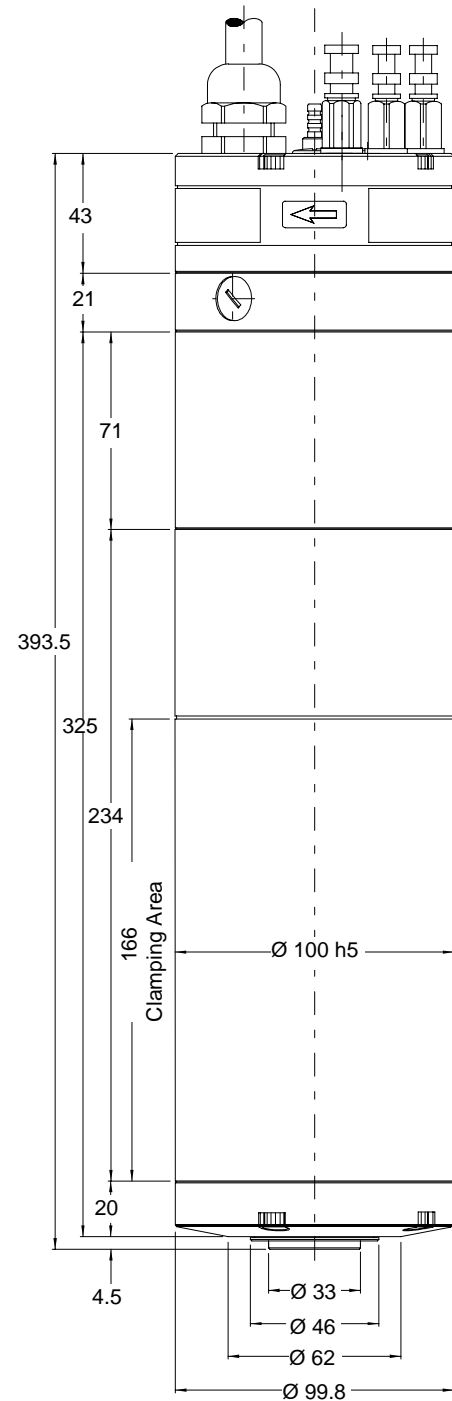
Installation kits:

- 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)
- Oil-Air Tubing Kit #411683 (SC 50102-OA only / for oil-air lubrication connections)

Extension Cables (1 meter cable length standard):

- 3m [9.6 ft] extension cable #331108
- 5m [16 ft] extension cable #331109

SC 50102 Series



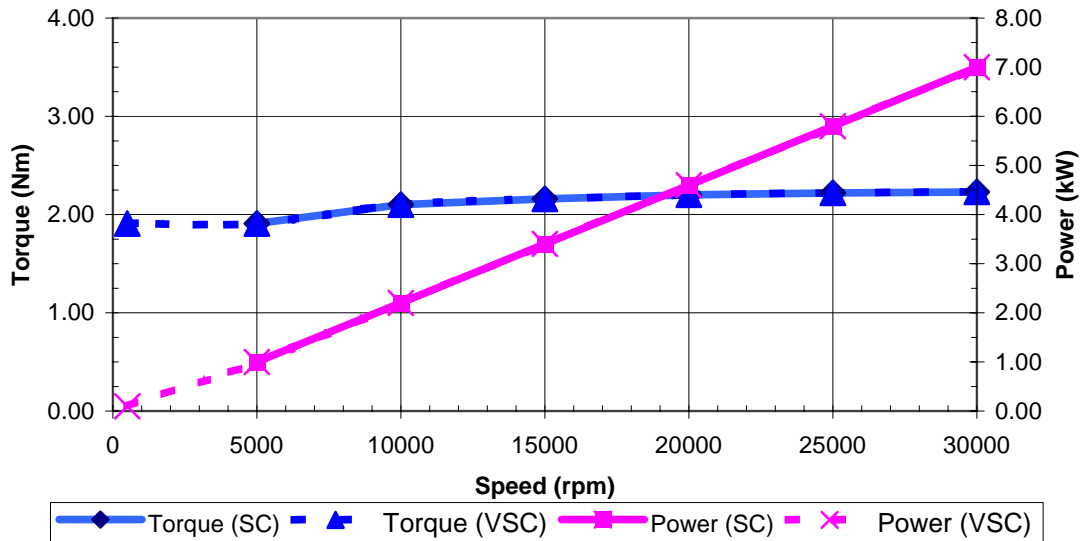


SC 50102 Series Technical Specifications

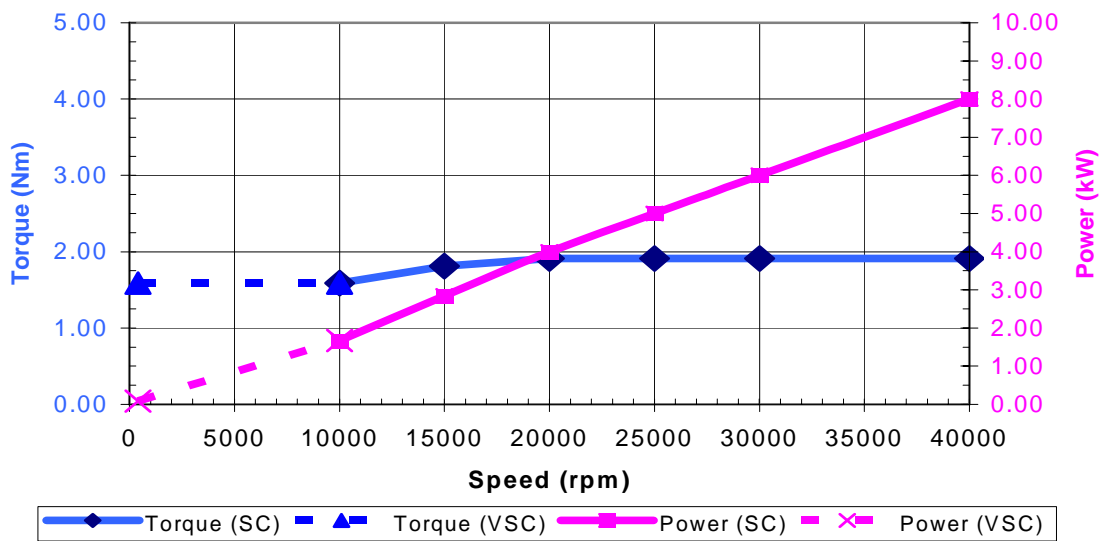
TYPE	SC 50102	VSC 50102	SC 50102-OA	VSC 50102-OA
MOTOR				
Speed Range	5,000 – 30,000 rpm	300 – 30,000 rpm	10,000 – 40,000 rpm	400 - 40,000 rpm
Maximum Power (S1-100%)	7.0 kW [9.4 hp] at 30,000 rpm		8 kW [10.7 hp] at 40,000 rpm	
Maximum Torque (S1-100%)	2.23 N-m [19.7 in-lb]		1.91 N-m [16.9 in-lb]	
Maximum Frequency	1,000 Hz at 30,000 rpm		1,333 Hz at 40,000 rpm	
Maximum Voltage	350 VAC at 1,000 Hz (30,000 rpm)		350 VAC at 1,333 Hz (40,000 rpm)	
Maximum Amperage	19 amps at full load		20 amps at full load	
Motor Type	AC asynchronous, 3-phase, 4-pole			
SPINDLE DRIVE				
Drive Type	precise Type PCA2 2030 frequency converter	precise Type PSVA 3045 flux-vector frequency converter	precise Type PCA2 2030 frequency converter	precise Type PSVA 3045 flux-vector 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 ("X" arrangement mounting also available)			
Lubrication	Permanent grease lubrication		Oil-Air lubrication using precise Type POAL-4 Oil-Air Lubrication System	
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: 65 N/μm [370,000 lb/in] Radial: 70 N/μm [400,000 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	#25 taper clamping system with spring-loaded drawbar			
Spring Retention	2250 N [506 lb]			
Toolchange (ATC)	Built-in pneumatic toolholder release cylinder, 5.5 bar [80 psi] minimum air pressure required			
Toolholder Type	precise Type ATC 2-25-20 toolholder			
Collets	precise Type SRP 20 collets (12 mm, 1/2" maximum collet capacity)			
Taper Air Purge	0.3 – 0.5 bar [4 – 7 psi] air blast through taper at toolholder release			
SENSORS				
Motor Protection	PTC thermistor in stator			
Speed Sensing	tachometer	encoder	tachometer	encoder
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 (2 x Ø6mm tubes) power cable (1 meter length with connector) tool-in-position sensor cable encoder cable (VSC only) 		<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 (2 x Ø6mm tubes) oil-air lubrication (4 x Ø4 mm tubes) oil drain (1 x Ø8 mm tube) power cable (1 meter length with connector) tool-in-position sensor cable encoder cable (VSC only) 	
MOUNTING / WEIGHT				
Mounting Diameter	Ø 100 mm h5 [3.9730" +0, -0.0006"]			
Mount Type	precise Type 9100 plane mount (spindles can also be special ordered for flange-mounting)			
Net Weight	17 kg [37 lb]			



SC 50102 and VSC 50102 Power / Torque Curves (S1-100%)



SC 50102-OA and VSC 50102-OA Power / Torque Curves



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