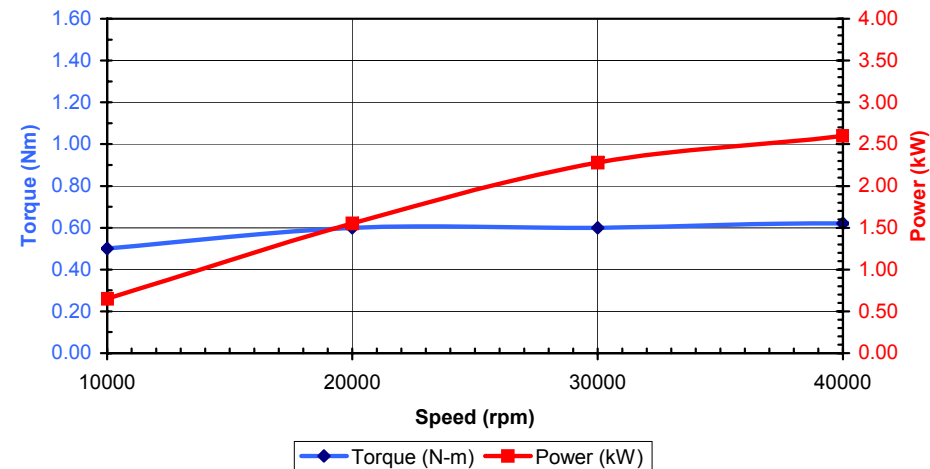


# SC 81

MOTOR	
Speed Range	10 000 – 40 000 rpm
Torque (S1-100%)	0.6 N-m [5.3 in-lb]
Power (S1-100%)	2.6 kW [3.5 hp] at 40 000 rpm
Frequency Range	333 to 1333 Hz
Voltage Range	88 to 350 VAC
Maximum Amperage	8.0 amps at full torque (S1-100%)
Motor Type	AC asynchronous, 4-pole, 3-phase induction motor
SPINDLE DRIVE	
Drive Type	Type PCSP 810 frequency converter
BEARINGS	
Bearings	Four (4) angular-contact, ABEC 7/9 precision Hybrid-ceramic front bearings, steel rear bearings
Mounting	Front and rear duplex sets, mounted in “O” arrangement with shaft length compensation to provide constant spring pre-load
Lubrication	Permanent grease lubrication
Labyrinth air-seal	0.5 bar [7 psi] positive air pressure at bearing seal
SHAFT DATA	
Runout Accuracy	≤ 2 μm [0.00008”] maximum radial runout in spindle taper.
Balance Quality	≤ 1 mm/sec maximum allowable vibration velocity at maximum speed
SPINDLE COOLING	
Cooling	Liquid circulation (1 part Dowtherm® SR1 to 2 parts distilled water) through spindle housing using Type RCS 1001 cooling system.
TOOL CLAMPING	
Toolchange	Manual (threaded grinding arbors)
Interface	Type SC 81 grinding arbors Ø11 mm pilot with M10 x 1.5 threads
SENSORS	
Motor Protection	PTC thermistor in stator
Speed Sensing	Tachometer
CONNECTIONS	
	<ul style="list-style-type: none"> <li>liquid cooling (2 x Ø1/4" tubes)</li> <li>labyrinth air seal (1 x Ø1/4" tube)</li> <li>power cable (1 meter length with connector)</li> <li>monitor cable (1 meter length with connector)</li> </ul>
MOUNTING / WEIGHT	
Housing Diameter	Ø80mm h5 [3.1496 “ +0/-0.0006”]
Mount Type	Type 9080 plane mount
Net Weight	8.1 kg [17.9 lb]



# Spindle Datasheet

## SC 81



### SC 81 Standard Equipment:

**SC 81 spindle (w/ 1-meter power cable)**  
Cat. #550309



**Cleaning Tools:**

- 1 straight brush (#477450)
- 1 tube brush (#477451)

**Wrenches:**

- 2 wrenches 22mm open end (#410589)

**Documentation:**

- 1 operating instructions (#328125)
- 1 safety instructions (#329139)

### SC 81 System Components (ordered separately):

**Type PCSP 810 Frequency Converter:**

Cat. #333648

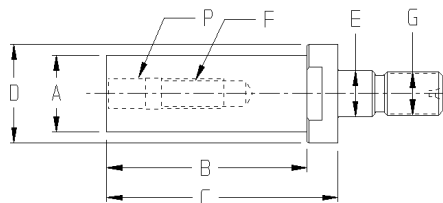


**Type RCS 1001 Refrigerated Cooling System:**

Cat. #: 330696



### Type SC 81 Grinding Arbors



### SC 81 Accessories (ordered separately):

#### Type SC 81 Threaded Grinding Arbors

	A	Ø8	Ø12	Ø15.9	Ø26
<b>B</b>	25.4	35	45	55	
<b>C</b>	33.4	43	53	63	
<b>D</b>	Ø26				
<b>E</b>	Ø11				
<b>F</b>	#10 – 32	1/4" – 20		3/8" – 20	
<b>G</b>	M10 x 1.5				
<b>P</b>	0.1875"	0.250"		0.375"	
<b>Type 1</b>	<b>410500</b>	<b>410501</b>	<b>410502</b>	<b>410503</b>	
<b>Type 2</b>	<b>410510</b>	<b>410511</b>	<b>410512</b>	<b>410513</b>	

Type 1: For wheels with threaded shanks  
Type 2: For wheels with separate wheel screws

#### Extension Cable Sets (2 cables per set):

Cat. #332778, 3m (9.6 ft)  
Cat. #332779, 5m (16 ft)



#### Base Tubing Kit:

Cat. #332004 (for liquid cooling connections)

- 10m Ø1/4" tubing (#179525)
- 1 tubing cutter (#329378)
- 2 adapter fittings (#176519)

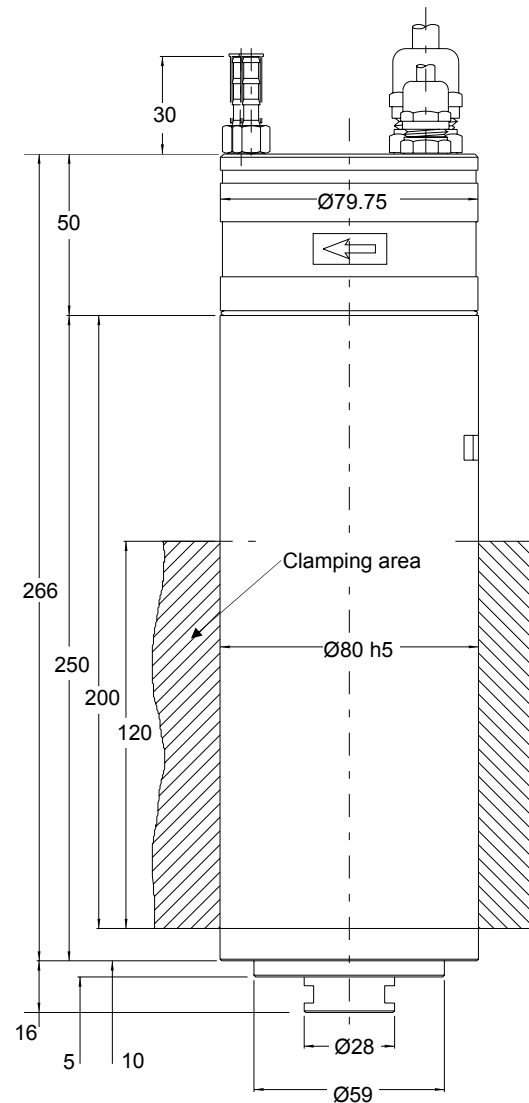
#### Filter/Regulator Kit:

Cat. #329279 (for labyrinth air-seal function)

- 5-micron filter-regulator with bracket
- 5m Ø1/4" tubing (#179525)

#### Type 9080 Plane Mount:

Cat. #408705



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