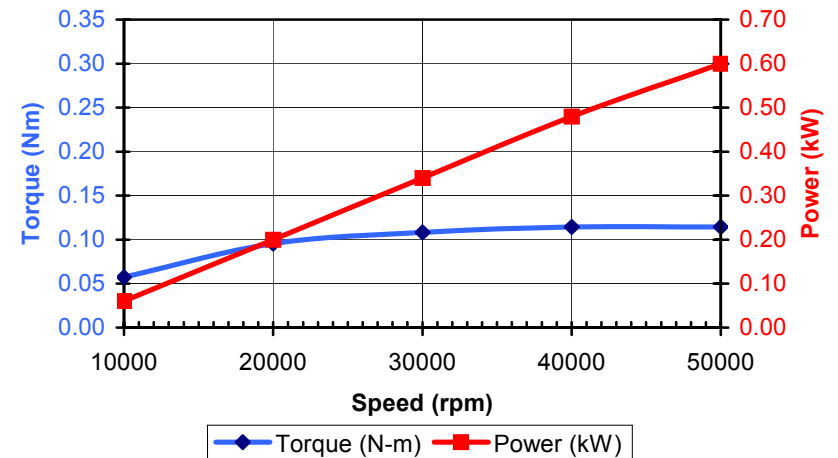


# Spindle Datasheet

## ESC 3043



MOTOR	
Speed Range	10 000 – 50 000 rpm
Torque (S1-100%)	0.11 N-m [1 in-lb]
Power (S1-100%)	0.6 kW [0.8 hp] at 50 000 rpm
Frequency Range	167 to 833 Hz
Voltage Range	40 to 170 VAC
Maximum Amperage	4.5 amps at full torque (S1-100%)
Motor Type	AC asynchronous, 2-pole, 3-phase induction motor
SPINDLE DRIVE	
Drive Type	Type PCS 410 frequency converter
BEARINGS	
Bearings	Four (4) angular-contact, high-precision 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
Labyrinth air-seal	0.2 bar [3 psi] positive air pressure at bearing seal
SHAFT DATA	
Runout Accuracy	≤ 2 µm [0.00008"] radial runout in spindle taper.
Balance Quality	≤ 2 mm/sec radial vibration velocity at maximum speed
Radial Stiffness	30 N/µm [170,000 lb/in] measured at spindle nose
Axial Stiffness	32 N/µm [180,000 lb/in]
SPINDLE COOLING	
Cooling	Liquid circulation (1 part Dowtherm® SR1 to 2 parts distilled water) through spindle housing using Type 7136 / 7137 coolant system.
TOOL CLAMPING	
Toolchange	Automatic – direct tool shank clamping
Tool Release	Integral pneumatic release unit - 6.0 bar [87 psi]
Collets	Type D6 (6mm, 1/4" maximum collet capacity) or Type D6D collets (1/8" collet)
SENSORS	
Motor Protection	PTC thermistor in stator
Speed Sensing	Tachometer available as an option
CONNECTIONS	
	<ul style="list-style-type: none"> <li>liquid cooling (2 x Ø6 mm tubes)</li> <li>labyrinth air seal (1 x Ø4 mm tube)</li> <li>ATC (1 x Ø 4 mm tube)</li> <li>power cable (1 meter length with connector)</li> </ul>
MOUNTING / WEIGHT	
Housing Diameter	Ø42mm h6 [1.6535 " +0/-0.0006"]
Mount Type	Type 9040 plane mount
Net Weight	4.25 kg [9.4 lbs]




# Spindle Datasheet

## ESC 3043





### ESC 3043 Standard Equipment:

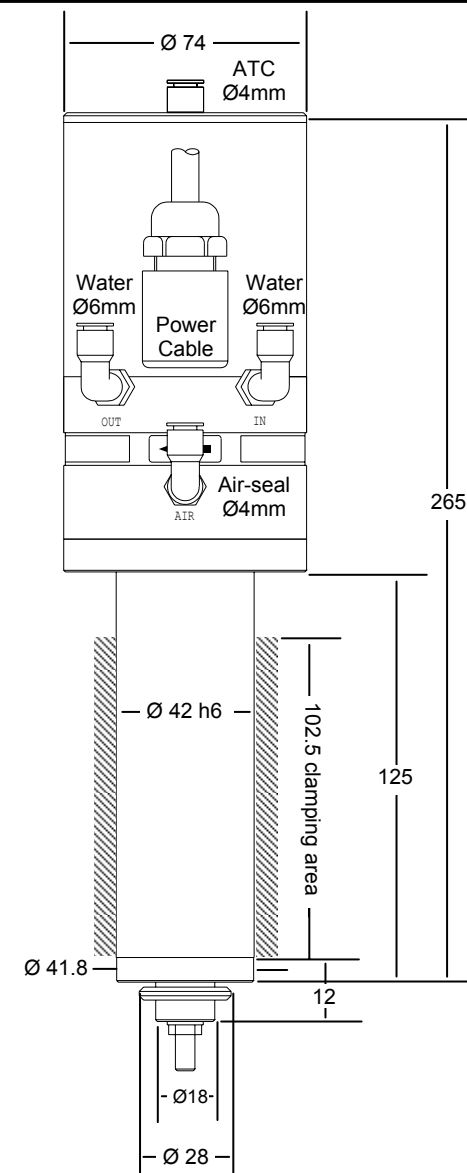
<b>ESC 3043 spindle:</b> Cat. #550294 (w/ 1-meter power cable) 	<b>Documentation:</b> <ul style="list-style-type: none"> <li>• 1 operating instructions #329785</li> <li>• 1 safety instructions #329139</li> <li>• 1 outline drawing #329623</li> </ul>
	<b>Cleaning Kit:</b> <ul style="list-style-type: none"> <li>• 1 tube moly-grease #018038</li> <li>• 1 round brush #050426</li> <li>• 1 straight brush #053439</li> <li>• 1 taper wiper #230449</li> <li>• 1 straight wiper #230450</li> </ul>
<b>Collet:</b> 1 #230537 Type D6 1/4"	
<b>Wrench:</b> 1 ring wrench SW9 #230423	

### ESC 3043 System Components (ordered separately):

<b>Type PCS 410 Frequency Converter:</b> Cat. #: 332759 
<b>Type 7136 / 7137 Cooling System:</b> Cat. #332370 (115 V) Cat. #332371 (230 V) 

### ESC 3043 Accessories (ordered separately):

<b>Collets:</b> <b>Type D6 (tool shanks with stop ring)</b> 1/4" #230537 3mm #230530 4mm #230532 6mm #230536 <b>Type D6D (tool shanks without stop ring)</b> 1/8" #230505
<b>Extension Cables:</b>  <ul style="list-style-type: none"> <li>Cat. #018030, 3m (9.6 ft)</li> <li>Cat. #018031, 5m (16 ft)</li> </ul>
<b>Filter/Regulator Kit:</b> Cat. #332301 (for labyrinth air-seal function) <ul style="list-style-type: none"> <li>• 5-micron filter-regulator with bracket</li> <li>• 5m 4mm tubing (#328847)</li> </ul>
<b>Base Tubing Kit:</b> Cat. #332300 (for liquid cooling, and ATC connections) includes: <ul style="list-style-type: none"> <li>• 5m Ø4mm tubing #328847</li> <li>• 10m Ø6mm tubing #328853</li> <li>• 1 tubing cutter #329378</li> <li>• 2 adapter fittings #330646</li> </ul>
<b>Type 9040 Plane Mount:</b> Cat. #: 330299 



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