

HEAVY DUTY DRILLING SOLUTION

The PCS BT40

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PCS HEAVY DUTY DRILLING SOLUTION



THINGS TO LOOK OUT FOR

Good quality, Durable Rack, Rail and Pinions?

Many cheaper machines utilize smaller or less durable components which work great at first, however these machines are destined to suffer premature wear. Any mechanical backlash or abnormality will guarantee poor quality cutting minute. Furthermore premature wear will result in excessive stress on other components such as motors, belts and drive amplifiers. Many managers have found the initial CapEx advantage of a cheap machine is quickly eroded by the loss of clients seeking better quality cutting and excessive maintenance callouts. Acknowledged managers that consider Arc On Efficiency when determining ROI will always purchase a PCS machine.

Dealing with High-Frequency Electrical Interference?

The plasma cutting process produces extreme levels of high-frequency electrical interference. PCS's extensive two decades of plasma experience and close relationships with component manufacturers has resulted in premeditated methods to screen, protect and select electrical components. Even the slightest penetration of high-frequency electrical interference can lead too difficult to detect intermittent errors which reduce the cutting quality and productivity.

Engineering and Test Capability?

PCS employ only the very best personnel. In particular staffs within the mechanical and electrical engineering departments are required to have exceptional qualifications while utilizing cutting edge computer engineering packages. In the design stage, all of the PCS machine models are rigorously tested and calculated through advanced computer modeling. This stage permits both major and fine mechanical adjustments that result in increased longevity achieved by very few manufacturers. Once an unparalleled result is achieved a prototype is produced and put through the harshest of tests, and amendments are made. The final result is a benchmarked machine model that can operate exactly as stated in our quotations with no hidden surprises.

Local Support?

When buying from PCS you are dealing directly with the manufacturer. PCS stocks an immense array of spare parts and consumables to ensure that machine downtime is kept to a minimum should a breakdown or natural disaster occur. Equally important, PCS directly provides exceptional knowledge and advice. What down time can you expect for any breakdowns and how will this affect your corporate image? Can you trust the machine manufacturer to provide spare parts for years to come?

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Customers Demanding Drilled Holes?

Own a Heavy Duty Cutting Machine?

Don't want to spend +\$300K on a new machine?

Retrofit Solution?

Adding to your existing Heavy Duty cutting machine:

- Rapid drilling up to 1 1/5" (30mm) diameter holes
- Tapping
- Counter boring
- All with an accuracy of 0.004" (0.1mm)

Have you got an existing Heavy Duty CNC Plasma cutter?

Are you continually getting requests for drilled holes, thereby forcing you to double-handle your parts? Do you want to add rapid Heavy Duty drilling and tapping capability to your machine at less than 1/3rd of the cost of a new machine?

USA 800 656 1903

Brian Richards - Profile Cutting Systems USA Inc, Burlington IA 52601, USA

Australia +61 3 9305 2555

19 Foden Avenue, Campbellfield VIC 3061, Australia



www.profilecuttingsystems.com info@profilecuttingsystems.com



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USA 800 656 1903

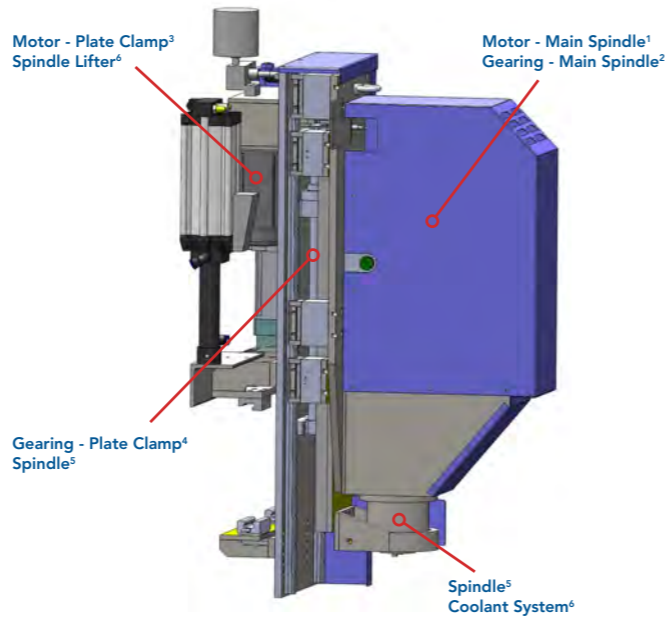
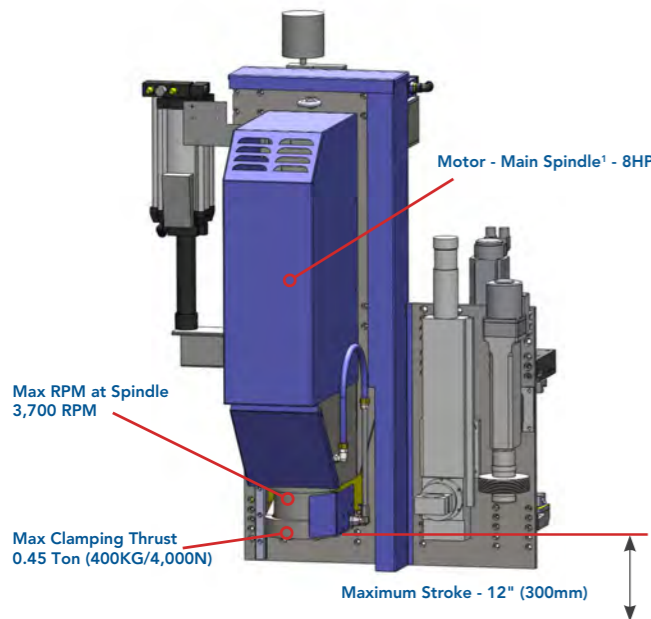
Australia +61 3 9305 2555



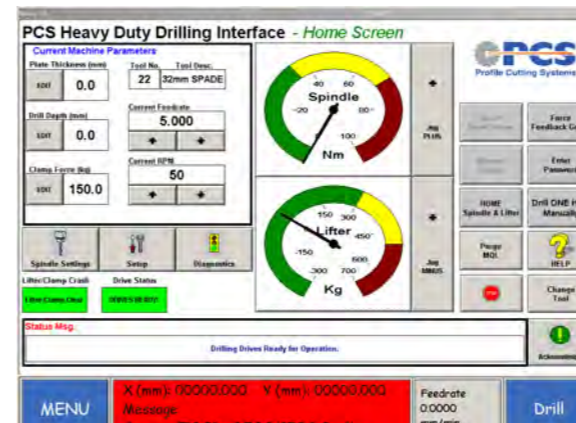
Well, look no further – Profile Cutting Systems have a cost efficient solution for you. The PCS HD Drilling System has been engineered and tested to capitalize on the incredible rigidity and strength that the Heavy Duty cutting machines are world renowned for.

The PCS HD Drilling Solution is a complete 3 digital axis drilling solution designed to drill accurate holes up to 1 1/5" (30mm) faster than you can cut them. Optimal tooling parameters are achieved by utilizing the latest technology consisting of DeviceNet™ communications integrated with a Burny CNC to accurately control spindle speed, feed and clamping pressure.

Housed within the heart of the PCS HD drill assembly is a powerful 8HP Bosch Rexroth AC servo motor coupled to a high speed BT40 spindle. The physical task of clamping the plate is delegated to a 1.2HP Bosch Rexroth AC servo motor which can apply up to 0.45 Ton (400KG) of clamping thrust to the clamping foot via a 1" (25mm) ballscrew. The combination of the latest technology, high quality components and the PCS easy-to-use drilling interface allows any operator to drill in literally seconds while achieving outstanding tool life and hole quality.



Spindle Settings (Software Screenshot)



Interface (Software Screenshot)



Controller

Standard Controller⁷	Burny 10 LCD Plus PC based Controller with integrated PCS HD Drilling software
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Drive System

Drive Amplifiers⁹	Main Spindle	13.5HP (10kW) Rexroth IndraDrive. DEVICENET comms
	Plate Clamp	2.8HP (2.1kW) Rexroth IndraDrive. DEVICENET comms
	Spindle Lifter ⁶	2.8HP (2.1kW) Rexroth IndraDrive. DEVICENET comms
Motors @100% duty cycle	Main Spindle ¹	8HP Fan cooled Rexroth AC servo motor
	Plate Clamp ³	1.2HP, 15Nm max torque Rexroth AC servo motor
	Spindle Lifter ⁶	1.2HP, 15Nm max torque Rexroth AC servo motor
Gearing	Main Spindle ²	Belt Driven
	Plate Clamp ⁴	1" (25mm) Ballscrew
	Spindle Lifter ⁵	1" (25mm) Ballscrew

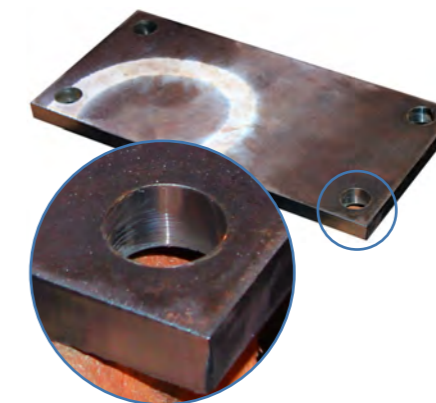
Standard Drilling Operation

Spindle⁵	Custom PCS 6" (150mm) dia.
Spindle balance grade	G1 (ISO 1940)
Max clamping thrust	0.4 Ton (400KG / 4,000N)
Max RPM at spindle	3,700RPM
Max hole diameter	1 1/5" (30mm using recommended high speed tooling. Larger holes may be achieved with low speed tooling)
Maximum tool length	8" (200mm) gauge length
Maximum stroke	12" (300mm)
Material thickness	Up to 4" (100mm)
Coolant System⁶	Through tool MQL (Minimum Quantity Lubricant)
Spindle taper	BT40
Drilling time - 18mm hole, 12mm plate	< 3 Seconds

Packages include



Samples



Options

- Deta 24 tool Rotary automatic tool changer
- 4 tool automatic tool changer