The PCS FL Plasma cutting machine incorporates the highest precision components than any other CNC plasma machine in the world. The components utilized are: THK highest precision grade combined linear rack/rail, THK 1 1/4" (32mm) ball screw, Rexroth digital AC servo amplifiers, Burny 10 LCD Plus CNC controller with PCS Custom Apps, strengthened and machined cutting table. This combination of state of the art equipment and PCS expertise provides near laser quality cutting at a fraction of the CapEx and running costs.

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.

Installation Charges?
PCS provides installation included with any PCS FL quotation. Installation costs can equate to thousands of dollars. Many other boutique machines require installation by a third party where by any abnormality in the installation process will ultimately be charged to the end user.

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?
The PCS FL is designed for high speed and ultra high accuracy plasma cutting of material up to 2" (50mm). The machine carriage is designed to be as light as possible yet maintain incredible rigidity. Consequently within the machine carriage the transverse axis comprises of a Digital AC servo motor which provides drive to a 1 1/4" (32mm) ball screw, effectively reducing stress placed on the main carriage.

The longitudinal Digital AC servo motors are fitted at virtually the same level as the cutting torch thereby minimizing any flexing and twisting forces. This unique design combined with the extra rigid construction of the integrated cutting bed, frame and fume extraction system, allows for a clean and ultra precise cut.

Machine Dimensions

| Effective cutting width | Upto 8‘3” (2.5m) |
| Effective cutting length | Infinite |
| Overall machine height | 4’3” (1.3m) |

Drive System and Controller

- **Controller**: Burny® 10 LCD Plus with Custom PCS Apps
- **Drive Amplifiers**: Longitudinal & Transverse: Independent 3-Axis (X, XX & Y) AC digital Rexroth IndraDrive amplifiers. SERCOS commns.
- **Motors**: Longitudinal Axis4: 11 FT/LB (15Nm) max torque Rexroth AC servomotor; Gearbox Longitudinal Axis5: Planetary Gearboxes <5 Arc Min
- **Gearbox**: THK 1 1/4” (32mm) ballscrew <7 arcmin

Recommended Plasma Cutting Operation

- **Power Source**: Kaliburn Spirit® or Hypertherm XPR
- **Output Current**: 100 – 400 amp
- **Plasma Torch Lifter System**: INOVA Torch Height Control System
- **Cutting Capacity**: 0.36” – 2” (1 – 50mm)

Standard Safety Features

- **Machine Protection**: Heat shields standard
- **E-Stop**: Independent Emergency-Stop circuit
- **End Limits**: Software controlled with redundant mechanical limit switches

Machine Travel

| Traverse speed | Up to 1260 ipm (32 m/min) - Safety Limited |
| Profiling speed | Up to 1260 ipm (32 m/min) |
| Max acceleration | 6.6”/s/s (2.0 m/s/s) |
| Machine accuracy on axis | 0.002”/3” (0.05 mm/m) |
| Machine repeatability on axis | 0.002” (0.05mm) |
| Rail - Longitudinal Axis¹ | Precision ground THK linear rail rack |
| Rail - Transverse Axis² | Precision ground THK linear rail |
| Pinions - Longitudinal Axis³ | Precision ground THK |
| Pinion Thrust Bearings² | As standard |
| Cable carrier | Cable carrier standard. Floor mounted. |
| Bearings³ | Linear Bearings on longitudinal & transverse axis |

Customizations

- Customized cutting width
- Infinite length
- Automatic torch height control
- Plasma cutting
- PCS Zero Offset Plasma Bevel
- Paint marking
- On Table plate stock database
- Job reporting interface for managers
- Advanced maintenance logger
- Digitally zoned fume extraction
- Automatic plate alignment
- On Table plate stock database
- Job reporting interface for managers
- Advanced maintenance logger
- Digitally zoned fume extraction
- Automatic plate feed
- Extra safety devices
- Wireless pendant
- Digitally zoned fume extraction
- PCS designed & manufactured dry cutting tables