

# PAC60

## Precision 5 axis cutting head with direct drive technology

### **Continuous Rotation**

By incorporating patented† technology, the PAC 60™ performs with continuous rotation, enabling any shape to be cut without having to re-position the cutting head.

### **60 Degree Bevel Cutting**

Capable of producing parts with true angle up to  $\pm 60$  degrees.

### **Multi-Pass Cutting**

Quick and easy chamfers, weld preparations, and countersinks on either or both sides of the plate.

### **Terrain Mapping**

Capable of maintaining an exact standoff distance between the nozzle and the work piece, even on plate that is not flat.

### **Extremely Accurate Direct Drive Technology**

Capable of producing parts to tolerances of  $\pm 0.1$  degrees.



### 60 Degree Beveling with Continuous Rotation

By incorporating patented<sup>†</sup> technology, The **PAC 60™** is capable of producing parts with a true angle up to ± 60 deg with continuous rotation. That means regardless of the geometry of the part to be cut, the **PAC 60™** will produce it without having to reposition the cutting head, saving time and producing higher quality parts.

### Constant Stand Off

The **PAC 60™** incorporates as standard “Touch Probe” height detection to set a precise stand-off before piercing, or to pre-determine the flatness of the material and make compensations in the “Z” height, to maintain an accurate stand-off while cutting.

An optional **Laser Sensor is also available to perform Precision Terrain Mapping** on the surface of the material to be cut. This information is then used to maintain an accurate stand-off distance between the nozzle and the work piece, resulting in more accurate parts than any other 5 axis head on the market. Other 5 axis heads set their stand-off only at the piercing point and then assume the work piece is completely flat along the cut path, which is almost never the case. As material flatness varies and stand-off changes, so does the geometry of the part being cut. So a constant, accurate stand-off is critical when angle cutting, and the greater the angle, the more critical it becomes.

### Reduced Taper

The **PAC 60™** operating software incorporates the **True Cut®** algorithms data base, developed to determine the predicted taper at a given surface finish. This taper is then compensated for when cutting the part, anywhere from 0 to 60 degrees, giving you “**Precision Angle Control**” of any part that can be produced on an X-Y abrasive waterjet cutting machine.

### Direct Drive Technology

By incorporating patented<sup>†</sup> Direct Drive DC Servo Motor Technology for the 4th & 5th axis, the **PAC 60™** is capable of positioning accuracy to ± 0.1 degrees with rapid acceleration and positioning speeds. Making the **PAC 60™** the fastest, most accurate 5 axis waterjet cutting head available in abrasive waterjet cutting.

### Tech-Sense™ Capability

The **PAC 60™** is also available with the patented “**Tech-Sense™**” to ensure your cutting head is working efficiently. When **Tech-Sense™** is used in conjunction with **Softec®** Mobile Phone Communication, you can receive and reply to text messages from wherever you want. This unique feature makes “Lights Out” operation a reality, something very useful on a Waterjet cutting machine where run times can be hours or days.

## PAC Specifications

The PAC option can be added to any of the products in our Intec-G2® and Techjet-X3® series. Addition of the PAC will change the specifications as noted below.

<b>INTEC-G2®</b>	Model	i35	i510	i612	i713	i1015	i1020
	Cutting Area X, Y (PAC Maximise Straight Cutting)	34.25" x 57.5" (870 x 1460mm)	56.5" x 118" (1435 x 3005mm)	67" x 142.5" (1710 x 3620mm)	75" x 159.4" (1905 x 4050mm)	119.25" x 180" (3030 x 4600mm)	119.25" x 240" (3030 x 6100mm)
	Cutting Area X, Y (PAC Active)	22" x 46" (560 x 1170mm)	45.5" x 107" (1160 x 2720mm)	56.3" x 131.75" (1430 x 3350mm)	64.5" x 144.75" (1640 x 3680mm)	109" x 171.5" (2770 x 4355mm)	109" x 229" (2770 x 5820mm)
	Accuracy of Motion (linear X, Y or Z.)	+/-0.006" (0.15mm)	+/-0.006" (0.15mm)	+/-0.006" (0.15mm)	+/-0.006" (0.15mm)	+/-0.006" (0.15mm)	+/-0.006" (0.15mm)
	Accuracy of Motion (rotary B or C.)	+/-0.1deg	+/-0.1deg	+/-0.1deg	+/-0.1deg	+/-0.1deg	+/-0.1deg
	Max. Rotational Speed (C axis)	540°/sec	540°/sec	360°/sec	360°/sec	360°/sec	360°/sec
	Max. Cutting Speed*	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)
	Max. Rapid Speed	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)
	Acceleration Rate	16"/sec <sup>2</sup> (400mm)	16"/sec <sup>2</sup> (400mm)	12"/sec <sup>2</sup> (300mm)	12"/sec <sup>2</sup> (300mm)	12"/sec <sup>2</sup> (300mm)	12"/sec <sup>2</sup> (300mm)

<b>TECHJET-X3®</b>	Model	TJ 1500	TJ 3000	TJ 4000	TJ 4100	TJ 5000	TJ 6000
	Cutting Area X, Y (PAC Maximise Straight Cutting)	34.25" x 57.5" (870 x 1460mm)	56.5" x 118" (1435 x 3005mm)	67" x 142.5" (1710 x 3620mm)	75" x 159.4" (1905 x 4050mm)	119.25" x 180" (3030 x 4600mm)	119.25" x 240" (3030 x 6100mm)
	Cutting Area X, Y (PAC Active)	22" x 46" (560 x 1170mm)	45.5" x 107" (1160 x 2720mm)	56.3" x 131.75" (1430 x 3350mm)	64.5" x 144.75" (1640 x 3680mm)	109" x 171.5" (2770 x 4355mm)	109" x 229" (2770 x 5820mm)
	Accuracy of Motion (linear X, Y or Z.)	+/-0.001" (0.025mm)	+/-0.002" (0.05mm)	+/-0.003" (0.075mm)	+/-0.003" (0.075mm)	+/-0.003" (0.075mm)	+/-0.003" (0.075mm)
	Accuracy of Motion (rotary B or C.)	+/-0.1deg	+/-0.1deg	+/-0.1deg	+/-0.1deg	+/-0.1deg	+/-0.1deg
	Max. Rotational Speed (C axis)	540°/sec	540°/sec	360°/sec	360°/sec	360°/sec	360°/sec
	Max. Cutting Speed*	500"/min (12.5m)	500"/min (12.5m)	500"/min (12.5m)	500"/min (12.5m)	500"/min (12.5m)	500"/min (12.5m)
	Max. Rapid Speed	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	700"/min (17.5m)	500"/min (12.5m)	500"/min (12.5m)
	Acceleration Rate	10"/sec <sup>2</sup> (250mm)	10"/sec <sup>2</sup> (250mm)	6"/sec <sup>2</sup> (150mm)	6"/sec <sup>2</sup> (150mm)	6"/sec <sup>2</sup> (150mm)	6"/sec <sup>2</sup> (150mm)

\*Max. cutting speeds around tight radii and small circles will dynamically alter as required to produce high quality parts within specified tolerances. Specifications are subject to change.

† US PATENT NO: 8,540,552 B2