Integral V™ Frame Allows for Faster, Precision CNC Plasma Cutter

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CNC plasma cutting framework is traditionally heavy and cumbersome. The steel framing affects the construction and design time as well as the overall performance of the system. Precision Plasma LLC, an innovative designer of plasma cutting gantries and routers, recently approached PBC Linear for a solution to the traditional, fabricated steel tubing framework that was restricting their speed and accuracy.

After assessing the problem, PBC Linear immediately recognized their patent pending Integral V™ Technology (IVT) as an obvious candidate to create a solution. Composed of lightweight anodized aluminum with a hardened steel raceway, Integral V™ ensures high load capacities, rigid linear guidance and torque resistance. IVT is also SIMO™ (Simultaneous Integral Milling Operation) machined for assured precision on all qualified rail surfaces. Newly implemented this year, the patent pending SIMO™ process concurrently mills all critical edges of an aluminum extrusion. This eliminates bow, twist and other inaccuracies that naturally occur along the rail and provides IVT with a precise, rigid guidance.

Outfitted with Integral V’s™ lightweight framework, the new Precision Plasma gantry’s speed was drastically increased from 1000 inches/minute to 3600 inches/minute! Acceleration was also greatly improved; increasing from 50 inches/second/second to 500 inches/second/second! Although speeds this extreme are not required for plasma cutting, this allowed for a faster system that decreased the end user’s production time while maintaining precision and accuracy. This drastic increase in performance was due to a design change that eliminated backlash between the pinion gear and gear rack, which was made possible due to the
accuracy of PBC Linear’s IVT product. For more information on Precision Plasma LLC or any of its plasma cutting products, please visit their company website at www.precisionplasmallc.com.

For more information on Integral V™ Technology or any other PBC Linear products, please call 1.800.729.9085, email to marketing@pbclinear.com, or visit us at our Integral V™ dedicated website, IVT.pbclinear.com, for downloadable materials and other application examples.