dura-kut

The AKS Cutting Systems “dura-kut” is a large format, traditional gantry style bridge plasma cutting system with heavy-duty features, robust design, multiple torch technology, and premium performance.

The AKS “dura-kut” is a CNC x-y programmable plasma cutting system that combines the best of Hypertherm SureCut™ Technology with over 100 years of AKS superior machine experience.

The AKS “dura-kut” is designed to handle large plasma cutting projects for larger and thicker plate cutting with independent table, separate from machine frame, and can include optional oxy-fuel torch cutting, multiple plasma torches, and multiple bridges. The AKS “dura-kut” uses the same controls, motors, drives and controller as all AKS Cutting Systems achieving superior motion accuracy and precision.

The AKS “dura-kut” uses standard all Hypertherm technology including:

- Hypertherm Plasma Power Supply Unit
- Hypertherm Edge Connect™ CNC Controller
- Hypertherm Phoenix Operating Software
- Hypertherm ProNest™ Programming Software
- Hypertherm Sensor™ Advanced Torch Height Control (THC)
- Hypertherm Torch Head and Consumables

The AKS “dura-kut” includes heavy-duty X-axis dual crane rails with Y-axis bridge beam mounted on heavy-duty end truck design. The “dura-kut” strands the independent table/tank which can be water table or down draft table design, or even built and supplied by the customer.

The “dura-kut” can include the optional AKS “robo-kut” 5-axis Bevel Head and the optional AKS “tube-kut” rotary axis tube/pipe cutting unit. The “dura-kut” also often includes oxy-fuel torch(es) technology for cutting thicker steel plates, and even a second bridge with multiple cutting technologies for the highest production applications.

dura-max

The AKS “dura-kut” is also available in the “dura-max” model which is an extra heavy-duty version specifically designed for wider width bridge beams and heavier loads for multiple torches and multiple carriages. The AKS “dura-max” comes in widths of 16’, 18’, 20’, 22’ and 24’ and offers multiple plasma torches, both straight and AKS “robo-kut” 5-axis Bevel Head, and multiple oxy-fuel torch(es) technology.
The AKS “dura-kut” offers these unique features & benefits:

- Heavy-Duty Machine Design for larger & thicker plate cutting
- X-axis Dual Synchronized Vertical Rack & Pinion Drives on both sides
- Y-axis Bridge Helical Rack & Pinion Drive
- Z-axis Hypertherm Sensor™ Advanced Torch Height Control (THC)
- Heavy-Duty End Truck Design including Servo Drive Motors, Gearbox and Bearings
- Oversized Wheel Bearings and Long Wheel Base for Stability and Precision
- Direct Mechanical Pinion Loading to Rack (no forced engagement) with Ultra-Low Backlash
- Heavy-Duty Crane Rail X-axis
- Hypertherm Hy-Definition HPR and XPR Family Plasma Power Unit & Torch
- Hypertherm Auto Gas Control Console
- Optional Water Table or Down Draft Table
- Magnetic Breakaway Torch
- Laser Pointer for Plate Alignment and Location Finding
- Hypertherm Edge Connect™ CNC Controller (Free Standing or Gantry Mounted)
- 19” Color Touch Screen Operator Control Console
- Hypertherm ProNest™ Programming Software
- +/- .006” per 3’ Positioning Accuracy of Motion
- 1000 ipm travel speed
- Optional AKS “robo-kut” 5-Axis Bevel Cutting Head
- Optional AKS “tube-kut” Rotary Axis Tube/Pipe Cutting Unit
- Optional Oxy-Fuel Torch(es) for Thick Steel Cutting

AKS Cutting Systems is a genuine Hypertherm SureCut™ Technology Integrator which enables users to fully optimize their plasma cutting process with exclusive features like:

- True Hole®
- True Bevel™
- Rapid Part™
- Power Pierce™
- Optimized Process Parameters
- Optimized Consumable Life

Hypertherm
SureCut™
The AKS “dura-kut” offers these optional upgrade items:

**Upgrade to Larger Sizes** – the same AKS “dura-kut” bridge beam and same performance designed into wider and/or longer cutting envelopes. Standard “dura-kut” beam widths of 8’, 10’, 12’, 14’, 16’ and 18’ with extra heavy-duty and extra wide “dura-max” widths of 16’, 18’, 20’, 22’, and 24’. All widths utilize the same precision ground helical rack & pinion drive systems as all AKS “dura-kut” machines. Standard “dura-kut” lengths start at 20’ long and increase by 10ft up to 200’. Longer machines also offer an optional second independent bridge beam for additional and/or separate torch(es).

**Upgrade to Larger Hypertherm Power Supply** – the AKS “dura-kut” comes standard with Hypertherm HPR-XD “Hy-Definition™” or XPR “X-Definition™” Plasma Power Supply units and torches. The AKS “dura-kut” is specifically designed for larger and thicker plate cutting with superior performance to take advantage of the Hy-Definition arc beam. The “dura-kut” is integrated with the Hypertherm Hy-Definition capability and utilizes the HPR or XPR family of cutting power supply units provides Hypertherm SureCut™ technology included.

**AKS robo-kut** – is the most powerful plasma cutting 5-axis bevel head in the industry and is protected by several U.S. Patents. The AKS “robo-kut” is capable of +/-45 degrees for A,V,K, X, top-Y and bottom-Y style bevel cuts for weld prep applications, countersinks, and chamfers, and also is capable of precision taper compensation or “back-beveling”. Most importantly, the AKS “robo-kut” can produce a ½” dia “bolt ready hole” in 1” thick steel plate, for a ½ : 1 ratio for hole diameter: thickness in many applications, which is superior over competitive machines which are limited to traditional 1 : 1 ratio only. The AKS plasma “robo-kut” incorporates robotic style precision gearing and planetary gearboxes that can be incremented in arc-seconds, or fractions of degrees, for tightest precision and accuracy. The “robo-kut” performs continuous unlimited rotation without interruption, for cutting of the most complex 5-axis parts without having to stop and unwind; and includes a magnetic breakaway head to prevent damage upon a crash.

**AKS tube-kut** – is one of the most valuable and productive AKS accessories. The tube/pipe cutting capability complements the flat plate cutting area. This unit greatly increases flexibility and capability, while saving floor space and capital investment, compared to a dedicated tube & pipe cutting system. It includes an integrated servo-controlled rotary axis, controlled by the CNC Controller, which holds the tube/pipe via a headstock 4-jaw chuck which rotates as the plasma torch cuts the tube wall. Together with the AKS “robo-kut” 5-axis Bevel Head and servo-controlled THC—Torch Height Control, and using the Hypertherm “Rotary Tube Pro” Software Module, the “tube-kut” cuts up to 12”x12” standard tube or 2” - 24” OD round pipe, up to 20 ft. long, with maximum weight of 1500kg (3300 lb). Also included are two (2) standard “steady-rest” manual clamping supports.

**Smoke Collector Filtration Unit** – coupled with the Down Draft Table, the Smoke/Dust Collector Filtration Unit provides suction air capable of both removing and filtering the plasma cutting process smoke. It is a stand-alone unit either installed indoors, near the plasma cutting machine, or outdoors for quieter operation. The Smoke Collector unit contains a series of high capacity HEPA filters which efficiently re-circulate clean air back into your plant.

**Oxy-Fuel Torch** – complimentary cutting technology on a separate carriage, but on the same bridge as the plasma torch. The Oxy-Fuel torch is powered by either independent servo control, or mechanical slave linkage. Also included standard features are: auto gas control, built-in auto remote ignition, integrated Coolex technology, digitally controlled high capacity manifold gas system, pre-heating transducer and fuel gas transducer, and automatic settings for faster oxygen and gas pre-heating, cutting speed and kerf. The Oxy-Fuel torch uses Oxygen for cutting 1/8” - 6” thick carbon steel and cannot cut stainless steel and aluminum.
The AKS “dura-kut” utilizes the Hypertherm EDGE Connect™ CNC Controller, the leading plasma cutting controls package in the industry. The EDGE Connect™ combines Hypertherm’s embedded expertise foundation with AKS Cutting Systems customization.

- Utilizes Hypertherm Phoenix™ Operating Software
- 19” Color Projected Capacitive Touch Screen
- One touch access for support documentation including cutting optimization tips, consumable change instructions and diagnostic tools
- Configurable Watch Windows™ enable on-screen real time monitoring of key process performance parameters while cutting
- Two Year Warranty
- Remote Help™ over the internet reduces down time and the need for on-site visits

Hypertherm’s global network of professionals for service, support and troubleshooting

Hypertherm® ProNest® 2017
CAD/CAM Nesting Software

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