

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”** straddles 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:

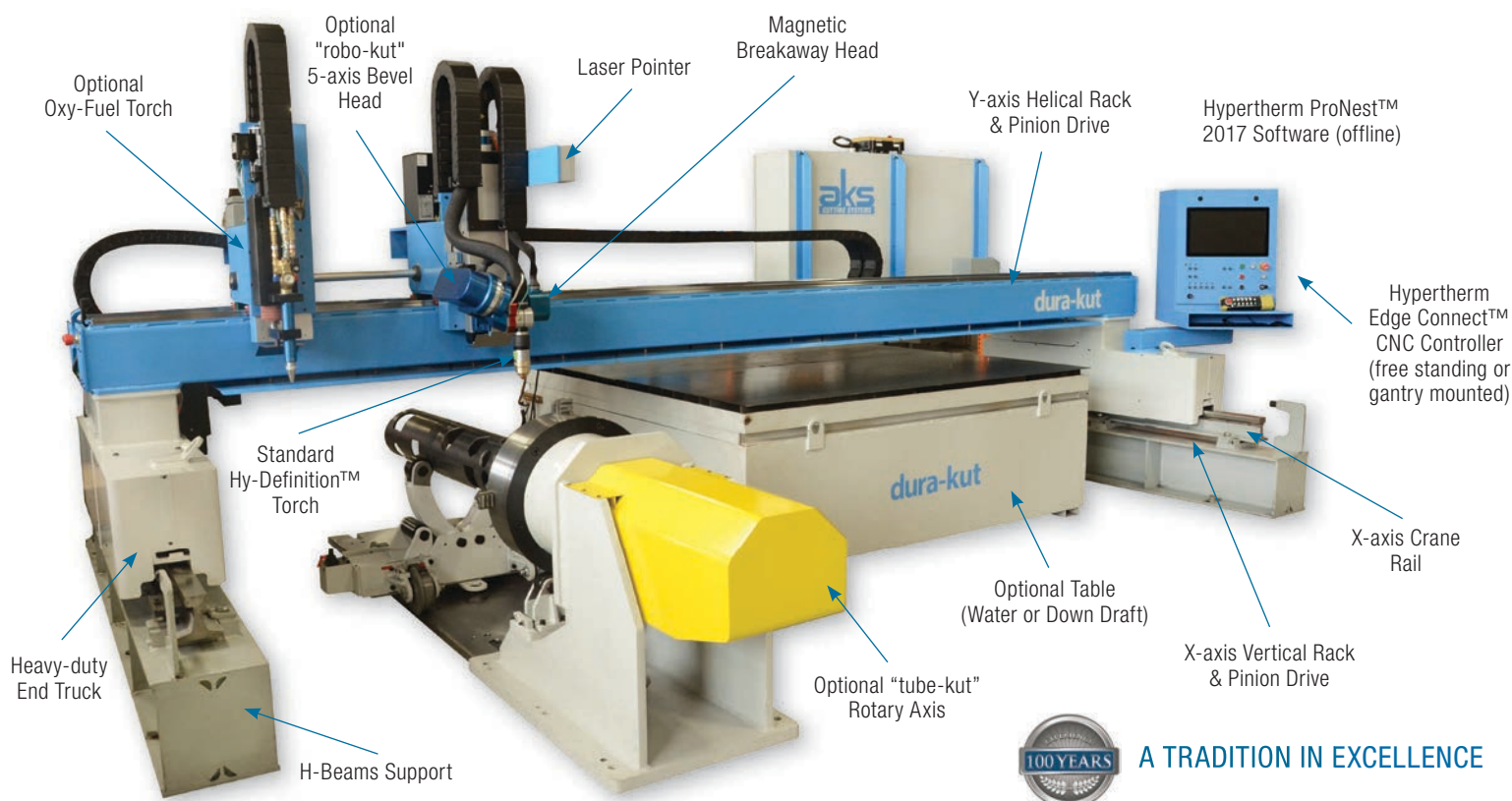
- Heavy-Duty Machine Design for larger & thicker plate cutting
- X-axis Dual Synchronized Vertical Rack & Pinion Drives on both sides
- Y-axis Bridge Helical Rack & Pinion Drive
- Z-axis Hypertherm Sensor™ Advanced Torch Height Control (THC)
- Heavy-Duty End Truck Design including Servo Drive Motors, 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

Hypertherm

SureCut™

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**



A TRADITION IN EXCELLENCE

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



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-Defintiton 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.

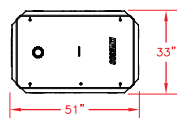


Oxy-Fuel Torch – complimentary cutting technology on a separate carriage, but on the same bridge as the plasma torch. The Oxy-Fuel torch is powered by either independent servo control, or mechanical slave linkage. Also included standard features are: auto gas control, built-in auto remote ignition, integrated 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.



RECOMMENDED MACHINE LAYOUT

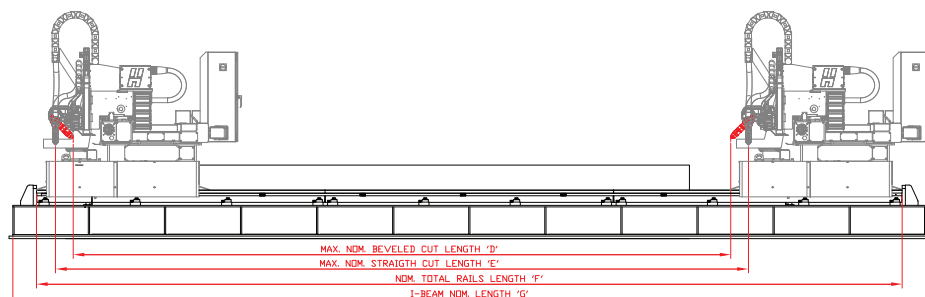
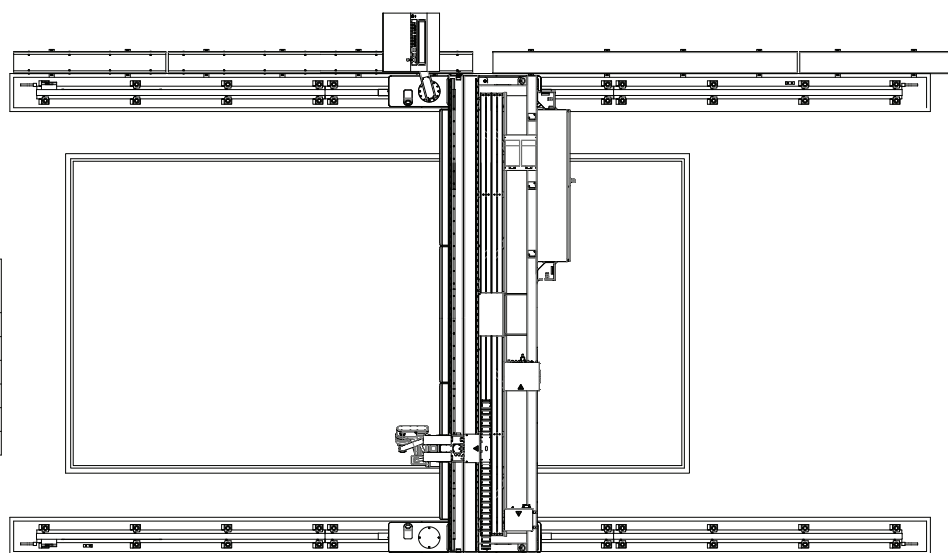
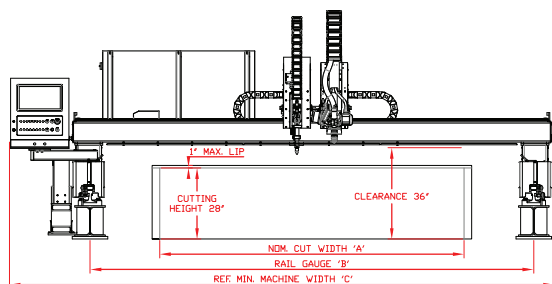
Allow 1 m (3 ft) of space on all sides of the power supply for ventilation and service.



PLASMA POWER SUPPLY ELECTRICAL REQUIREMENTS XPR300			
INPUT VOLTAGE	PHASE	CURRENT FLA	
200/208 VAC	3	206/198 AMPS	
220 VAC	3	188 AMPS	
240 VAC	3	172 AMPS	
480 VAC	3	86 AMPS	
600 VAC	3	79 AMPS	

MODELS	G8	G10	G12	G14	G16
NOM. CUT WIDTH 'A'	96	120	144	168	192
RAIL GAUGE 'B'	151	175	199	223	247
MACHINE WIDTH 'C'	191	215	239	263	287

DIMENSIONS D, E, F AND G DEPEND ON THE LENGTH REQUIRED BY CUSTOMER.



HYPERTHERM EDGE CONNECT™ CONTROLLER

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 PRONEST PROGRAMMING SOFTWARE

- **Powerful single solution** CAD/CAM nesting software
- Increases material savings, boosts productivity, reduces operating costs and improves part quality
- Compatible with most drawing formats with **direct import** of **.dxf** and **.dwg**
- Uses the patented **CutPro® Wizard**, with database cut charts, so even new operators can be ready to cut production parts in minutes
- Enables users to obtain optimal part cut quality with **automatic nesting** and **automatic process optimization**
- Backed by **Hypertherm's global network** of professionals for service, support and troubleshooting

Hypertherm®
ProNest® 2017
CAD/CAM Nesting Software

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**A TRADITION IN EXCELLENCE
FOR OVER 100 YEARS**