

CUTTING, POSITIONING & WELDING EQUIPMENT

MASTERGRAPH EXTREME

CNC PLASMA/OXY-FUEL CUTTING MACHINE



Koike Aronson, Inc./Ransome

Headquarters- Arcade, NY

COMPANY

Koike Aronson, Inc./Ransome is headquartered in Arcade, NY. We are a proud supplier of advanced cutting machines, welding positioning equipment,

portable cutting/welding machines, and gas apparatus. Our knowledgeable staff can assist you with virtually all your needs in metal fabrication. Koike Aronson/Ransome cutting machines can be customized to fit most requirements, and our welding and positioning equipment can be made to accept work pieces of nearly any size.



Cutting Machine Assembly

Our manufacturing area consists of a machine shop, saw shop, two assembly shops, a burn shop, and a weld shop. Handling nearly all manufacturing in-house helps us maintain our extremely high quality. Our factory uses 5S, a lean tool directive, that increases productivity through tidiness and improved organizational practices. We have the capacity to run three shifts with approximately 100 employees per shift. Machining capabilities range anywhere from a small nut to a large weldment. Most importantly, we use our own products to build our customers' machines.

The Engineering Department is comprised of mechanical, electrical, and software engineers with over 250 combined years of design, process, and technical experience. Their knowledge allows us to apply proven designs to customer needs and to develop new technology for custom applications. AutoCAD, SolidWorks, and Cosmos software are used to optimize designs for standard products and to create custom solutions for specialized equipment. Our electrical and mechanical systems are designed to industrial standards for strength, reliability, and safety.



World Class Service Support

We have the technicians, training, and engineering support to keep your machine running like new for years to come.

The Business Unit and Customer Service Representatives of Koike Aronson/Ransome offer our customers well over 170 years of combined experience. They work with our many distributors and manufacturer sales representatives to make sure you get quality products and the right equipment for your application. We encourage feedback, and are ready to work with you to keep your machine productive for many years.

The dedicated service technicians of our Field Service Department work as a team to keep machines running at top performance. This starts with sending pre-installation documentation to prepare our customers for machine delivery, installation, and training. Our website is filled with helpful information including the KAR Club, which offers numerous tips on troubleshooting, tuning your machine, and machine maintenance.



For Other Downloads, please scan here with your smartphone

Made in USA. At Work Worldwide

Koike Customer Visit Program See How Koike Can Make Metal More Profitable For You

Koike Aronson's Customer Visit Program was introduced to provide those looking to purchase equipment the opportunity to come visit us, meet our people, and tour our complete manufacturing facility.

Your visit to our facility is on us. All expenses paid for including: airfare, transportation, room and meals.

Call a Koike Representative for details and schedule your appointment today!

Phone: (585) 492-2400

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MANUFACTURING PROCESSES



LOGISTICS



SAWING / MACHINING



BURNING



ASSEMBLING



PAINTING



WELDING/FABRICATING

MASTERGRAPH EXTREME



Shown: Cutting table and bevel head are optional

The Power Needed for Today and the Flexibility for Tomorrow

Koike Aronson has created a new world standard in thermal cutting machines. The Mastergraph Extreme utilizes the latest technologies to provide unmatched speed, accuracy, versatility and durability in a thermal cutting machine. Designed to satisfy the world's most demanding customer requirements, the Mastergraph Extreme has been engineered to provide the power needed for today and the flexibility for tomorrow. Steel Service Centers, Heavy Fabricators, Tank Manufacturers, Shipbuilders and General Fabricators are just a few of the Mastergraph Extreme target customers.

Koike Aronson's time proven construction techniques have been enhanced with a host of new features and technologies. High Torque and High Resolution have been engineered into this design to accommodate new plasma cutting technologies. The Mastergraph Extreme is equipped to handle your job requirements and is flexible enough for adaptation to future process requirements. The future of thermal cutting is here today, and Koike Aronson is ready to show it to you!



Rear Shelf Component Covers

Prevents damage to components from harsh cutting environments such as smoke, sparks and dirt (shown with optional Hi-Lo Oxyfuel gas system).



Operator Console

Hard-wired switches for powering machine, selecting oxy-fuel station, operation and E-stop button. Swivels to the left or right for better ergonomic machine operation.



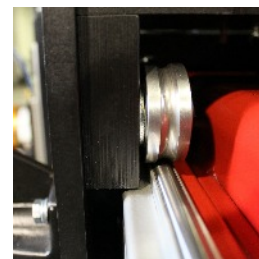
Emergency Stop Button

E-Stop button quickly and safely shuts off machine motion and cutting process, including oxy-fuel gases to the torches.



Linear Way and Heat Shields

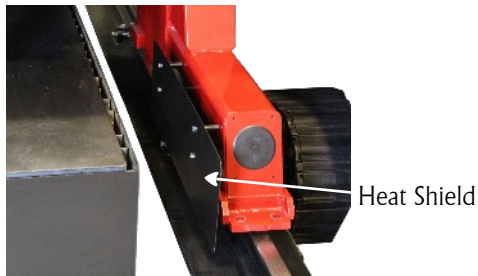
Wide profile replaceable linear roundway provides for a smooth and accurate cutting motion. Heavy duty heat shields protect machine from heat and sparks.



Maintenance Free

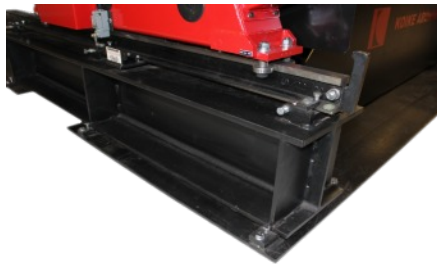
Sealed bearings for linear roundway

STANDARD EQUIPMENT



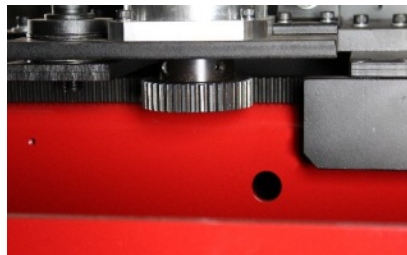
Main Rail Saddle Heat Shields

Protects main beam and rails when cutting heavy metal.



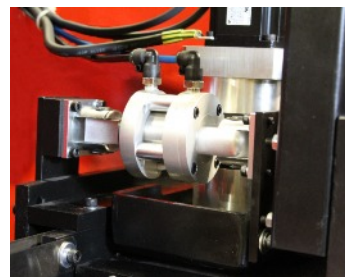
Heavy Duty H-Beam and Rail Design

Provides highly accurate symmetry for the basis of precision cutting and smooth motion. Allows expansion of rail length and use of common rail for two or more machines.



Large Diameter Drive Pinions

Large diameter pinions offer accurate and smooth machine motion.



Air Tensioning System

For proper pinion -to- rack engagement; extends pinion and rack life.



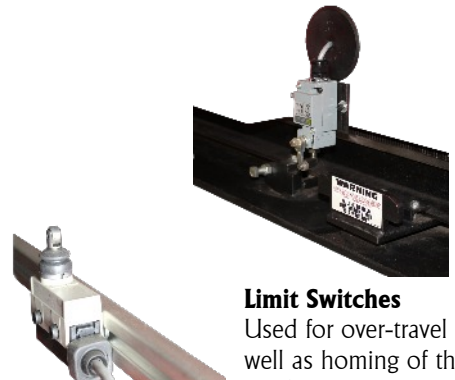
Koike-Engineered Main Electrical Enclosure

Offers "Off-The-Shelf" components including Yaskawa drives (shown with optional Hi-Lo Oxyfuel gas system).



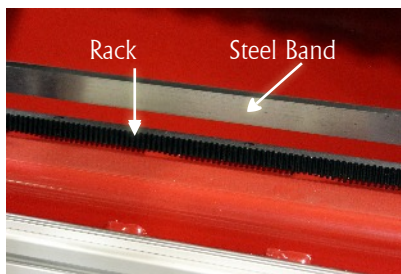
Slave Carriage Band Clamp

Allows easy and accurate placement and spacing of tools such as oxy-fuel and plasma torches; allows mirror cutting of parts.



Limit Switches

Used for over-travel as well as homing of the machine.



Heavy Duty Slave Carriage Steel Band

Endless loop stainless steel band keeps motion of transverse axis accurate and smooth when using multiple torches.



Rail Axis Cable Carrier

Can be mounted on the floor or overhead (optional). A sealed design keeps hoses and cables protected from harsh environments.

OPTIONAL CNC CONTROLS



Hypertherm® EDGE Pro Shape Cutting Motion Controller (Shown with Koike Aronson Operator Console)

- Features 15" (380 mm) Glass Touchscreen (SATA Hard Drive)
- Minimum 1 GB RAM
- Remote Assistance (when connected to Internet)
- Hypertherm's® plasma Auto-gas support
- Simple shape library
- DXF Direct Input
- Simple Shape Nesting
- CutPro Wizard for Beginners



CNC Air Conditioning Unit

Provides additional cooling - required for machines operating in temps above 120°F (49°C). Consists of 1024BTU 115vac industrial tool grade air conditioner and CNC enclosure for external cooling of CNC cabinet.

PLASMA SYSTEMS & OPTIONS



High Definition and Conventional Plasma Systems

Automatic or Manual gas setting. Koike Aronson offers high quality plasma cutting systems by Hypertherm®.

Each of these systems offer a wide variety of features and benefits. From the most basic systems to the most advanced in the market, KOIKE offers a plasma that is sure to meet your needs.

Choosing the right options for your application is not easy. Many options exist for the Mastergraph Extreme. When you decide to buy a cutting machine from KOIKE, not only are you getting a high quality machine designed to perform and last, but most importantly, you are getting know-how that comes with almost a century worth of experience.

Your application, your job and your factory come first. You'll find that working with our Cutting Machine Business Unit means attention to detail and finding the right machine that fits your applications and your budget too.



MARKING OPTIONS

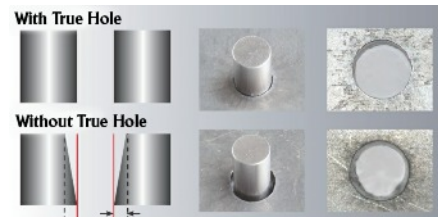


Plasma Plate Marking

Low amperage plasma marking with the ability to adjust marking depth through the CNC parameters.

Pneumatic Dot-Peen Pin Stamp Marker Station

Carbide tipped variable speed punch for marking bend lines, layout lines, drill locations and lettering/numbering as small as 1/4" high.



True Hole™ Ready

TrueHole™ Technology founded by Hypertherm® produces a significantly better hole quality than what has been previously possible before using plasma. This technology was developed for mild steel from gauge to 1" (25 mm) and has been optimized from a 1:1 to a 2:1 diameter to thickness ratio.

Please consult your local KOIKE Cutting Machine Sales Representative for further information.

PLASMA SYSTEMS & OPTIONS



3D-LT Bevel Unit with Koike HD Sensor-THC Height Control

True focal point technology. This head is designed so motors and gearboxes are receiving maximum protection from the cutting environment. No electrical wires or components near the heat, smoke and dust involved with the cutting process. Designed for simplified alignment and lower maintenance costs.

Continuous 360° rotation.

Bevel Angle Capability:
Positive bevel angle: 50°
Negative bevel angle: 50°

Bevel Types include:
A, V, X, Top Y, Bottom Y & K



Manual Plasma Bevel Station

Bevel in the rail axis only. Non-contour mechanical adjustment from +/- 0 to 45°.



Koike Integrated Sensor THC Torch Height Control

- 12" (340.8 mm) Lifter Travel
- 1,000 IPM Programmable Lifter Speed
- Adjustable stroke retract between cuts
- Dynamic positioning.

Collision Detection Mount

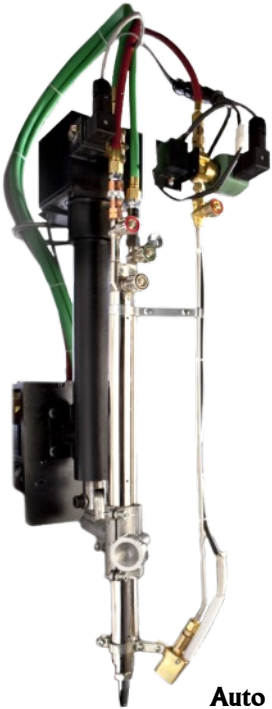
- Magnetic integral breakaway for collision detection and system shutdown
- Primary Ohmic contact plate sensing for clean plate
- Secondary plate sensing means for scaled/rusty plate
- Primary and secondary means for lifter homing



Laser Pointer

Allows operator a visual indicator for plate alignment and torch positioning.

OXY-FUEL SYSTEMS & OPTIONS



Auto Ignitor

Safely ignite oxy-fuel torches with the convenience of never having to leave operator station



Koike Torch Bevel Head Attachment

The bevel head attachment is used in place of a Koike cutting tip. It is used for bevel cutting operations, including top and bottom bevel cuts.



Koike Twin Tip Holder

Converts a single oxy-fuel cutting torch into dual cutting torches. Allows strip cutting and a closer distance between small parts.

Oxy-Fuel Torch Stations (Up to four stations available)

Model "G" motorized lifter, 6-inch (150 mm) stroke at 40 IPM. All stations are controlled from Operator console. 500L Koike torch offers 1/8" to 12" (3 mm to 300 mm) thick plate cutting available. Capacitive height control (not shown) and automatic ignition available (optional).



Hi-Lo Oxy-Fuel Gas System with Auto Ease-On

Allows high-lo preheat for fast preheating of plate and superior cutting quality. Features auto ease-on pierce control for cut oxygen. Allows for precise piercing on thicker plate. Maximum 6 in (150 mm) thick material with 4 torches.



Servo Gas Control with Auto Ease-On

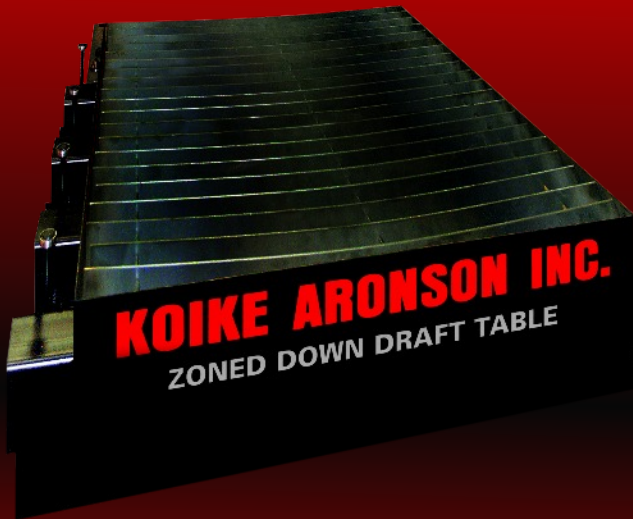
Allows high-lo preheat for fast preheating of plate and superior cutting quality. Features auto ease-on pierce control for cut oxygen. Allows for precise piercing on thicker plate. Dome loaded regulators provide precise flame adjustment. In addition to the benefits of the Servo Gas Control, it also allows multiple torch thick plate cutting and includes a main beam electric blower fan and heavy-duty heat shields to deflect heat and sparks.



Koike D7 Cutting Tips

- Safer Operation
Koike's 100 Series tips are designed to reduce backfires to keep the operator and torch safe
- High Quality
Each tip is thoroughly tested to ensure consistent high-quality cutting in every tip
- Faster Cutting
Our high-speed divergent tip increases cutting speed by 20-28% over standard tips
- Gas Savings
Gas consumption is reduced up to 26%
- Durable
A stainless steel cutting oxygen liner results in the tip lasting up to five times longer over standard tips

TABLE OPTIONS



Koike Zoned Downdraft Cutting Table

The Koike Downdraft table is as big, or as small, as most workpieces you've got. Its modular design lets you add space as you need it, with a maximum material thickness of 6 in.

Operation is simple: there are no electronic components, and slat frames and slag pans remove easily for cleaning. Fume extraction is everything you need, thanks to multiple zones for optimal fume extraction. Downdraft tables are used primarily for plasma cutting and combined with fume extraction units that filter the air back to the factory. Downdraft tables provide the best option for high-quality cutting with high-density plasma systems.



Koike Water Cutting Table

The Koike water cutting table is an economic solution to reducing smoke, sparks and dust into the environment. It can be used for both oxy-fuel and plasma cutting. While not the most optimized solution for high density plasma systems, it still provides good results in cut quality.

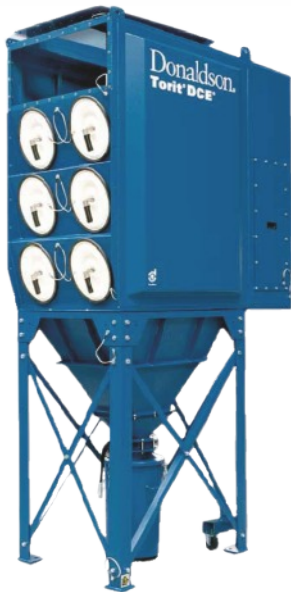
Constructed out of 1/4" thick steel the table offers a heavy duty design with re-enforced side walls for extra durability.

The steel tank air bladder allows raising and lowering the water lever with air.

The design of the table allows 6" thick plate and under to be leveled to the table for more accurate cutting.

1/8" thick slats are spaced 3" apart and curved to help stop small parts from falling into table and prevent straight line cutting along a slat. This feature reduces slag along the bottom of parts and prolongs the life of the slats.

Easy lift lugs allows you to lift the whole slat and pan assembly or each individual component of this assembly. As an example: it allows for the lifting of slats and the holder for easy access to collector pans.



Fume Extraction Unit

- Ledge-less construction
Eliminates dust build-up and accommodates wash down environments
- Compact design
Minimizes floor space
- Powerful performance
Proprietary ExtraLife™ Filter Cleaning System provides 30% more cleaning energy
- Cost savings
Fewer filter change outs, reduced filter disposal costs, less energy usage
- Reliability
Exceptional results for over 20 years and counting



Downdraft Table Trip Arm

Mechanical trip arm that opens and closes zones in the Koike Downdraft table. No pneumatic or electrical components are required.

WORKSHEET

Effective Cutting Width: Effective Cutting Length:

Material Types:

Material Thickness Range

Plasma Thickness:

Oxy-Fuel

CNC Controller

Hypertherm® Edge Pro

Rail Axis Cable Carrier

Floor Mounted

Overhead

Plasma Type

Quantity:

Hi-Definition

Voltage:

Conventional

Plasma System

Hypertherm®

Plasma Bevel

Manual Type

3D-LT Automatic Full Contour

Oxy-Fuel

Quantity:

Plasma Height Control

Koike Sensor-THC

Fuel-Gas Type:

Auto Ignition

Capacitive Height Control

Manual Bevel Attachment

Plate Marking

Pneumatic Dot Peen

Offline Software

Hypertherm® CAM Solutions

SigmaNEST

Cutting Tables

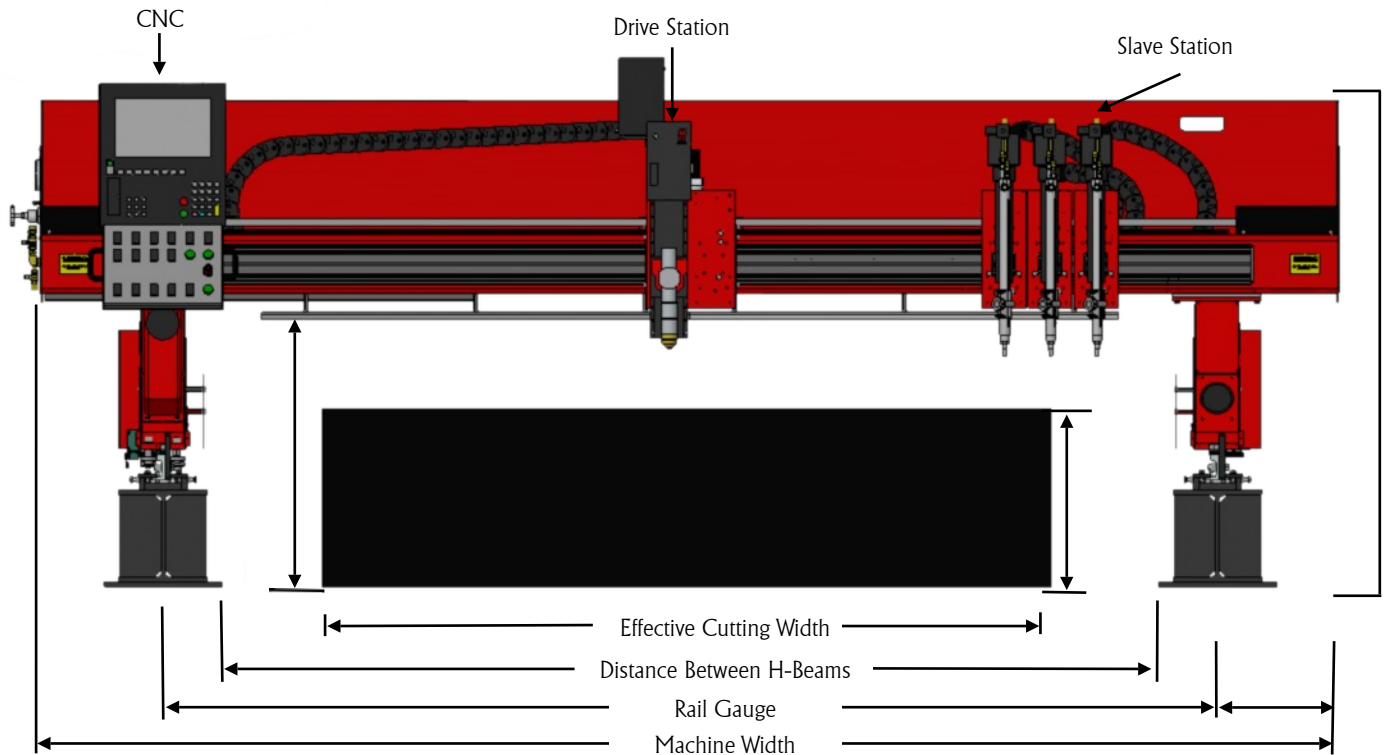
Pneumatic Water

Dry

Self Cleaning Downdraft

Fume Collector

SPECIFICATIONS



MODELS	MGEXT 1500	MGEXT 2500	MGEXT 3100	MGEXT 3700
Effective Cutting Width (5-Slave Stations)	60 in	96 in	120 in	144 in
Effective Cutting Width (2-Slave Stations)	84 in	120 in	144 in	168 in
Distance Between H-Beams	110 in	146 in	170 in	194 in
Machine Rail Gauge	126 3/4 in	162 3/4 in	186 3/4 in	210 3/4 in
Machine Width	170 in	206 in	230 in	254 in
Effective Cutting Length (Expandable)	168 in	168 in	168 in	168 in
Machine Rail Support H-Beam	W12-72#	W12-72#	W12-72#	W12-72#
Rapid Traverse Speed	800 IPM	800 IPM	800 IPM	800 IPM
Contour Speed (Maximum)	400 IPM	400 IPM	400 IPM	400 IPM
Machine CNC	Hypertherm® EDGE Pro	Hypertherm® EDGE Pro	Hypertherm® EDGE Pro	Hypertherm® EDGE Pro
Machine Drive System	AC Servo	AC Servo	AC Servo	AC Servo
Maximum Number of Tools	9	9	9	9
Maximum Number of Slave Stations	7	7	7	7
Maximum Plasma or Marker Stations	2	2	2	2
Maximum Oxy-Fuel Stations	8	8	8	8
Oxy-Fuel Gas System 10" Max. Thickness	Hi-Lo	Hi-Lo	Hi-Lo	Hi-Lo
Machine Voltage	208-204/1/60 @ 15 AMP	208-204/1/60 @ 15 AMP	208-204/1/60 @ 15 AMP	208-204/1/60 @ 15 AMP

Specifications are subject to change without notice

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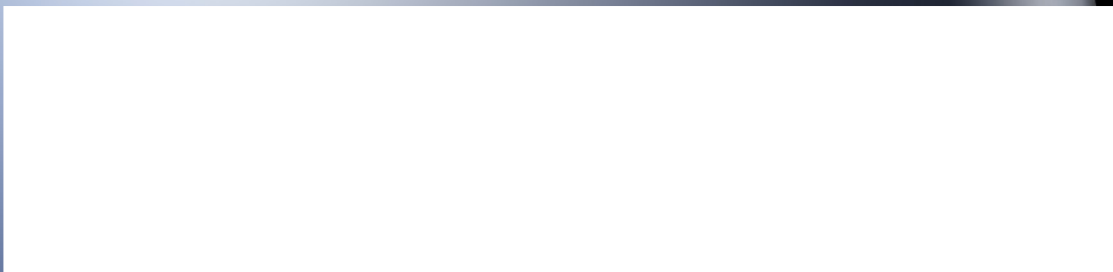
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