

# iPlasma

Plasma Cutting



1950

MVD Produces its first machine



1971

The first sheet metal working machine "perforation press" was presented to the market.



1974

The production of "Heavy-duty Press Brakes and Guillotine Shears" started and MVD had the distinction of being the first Turkish manufacturer for heavy press brakes and shears.



1981

1981 Moved to a new factory and added the production of 4 roll bending machines and Expanded Metal presses in the next years. Thus, a great variety of machines were presented in sheet metal working industry.



1994

MVD produced the first tandem press brake in Turkey.



2001

Finalised the CE conformity procedures and had its machines CE marked.



2003



2011

Plasma cutting machines were presented to the market.



2011

Fiber Laser Cutting and Plasma cutting machines were presented to the market.



2015

Hybrid Press Brake manufacturing started



2018

Servo Press Brake manufacturing started



# Shaping the Future

## VALUES

- Experience in machine manufacturing "Since 1950"
- High quality awareness
- After sale services assurance
- Corporate approach
- Dedication to customer satisfaction



## VISION

Providing technological solutions to sheet metal industry through research & development activities and aim to become world's leading brand by continuous growth.



# iPlasma PLASMA - OXY CUTTING

Low maintenance cost

High Precision and quality cuts

Unmatched Reliability and Long Life

Robust housing construction

World known components

# iPlasma PLASMA - OXY CUTTING

Quality and service support is accepted as principle. Designing and Manufacturing are based on reliability, durability and precision. Machines are easy to use and are built to be ready for user errors. Machines are designed and analyzed with 3-D computer programs, manufactured with consideration of high precision, equipped with world-known equipments and presented to the customers' use after quality control.



# P Series

## GENERAL FEATURES

P-Series Plasma machines are used for cutting thick metals, It is a reliable and robust plasma source.

Hypertherm cutting head, CNC control unit and power source provides precise and high quality cutting.

P-Series Plasma machines are designed for precision cutting, High Performance, High Speed

It can be equipped with Pipe cutting, 5 axes beveling head, multi plasma heads and Oxy cutting heads.

Precise and accurate Hypertherm cutting head

Hypertherm power source options for different sheet metal thicknesses

Robust construction with long life and high performance

Eco-friendly and CE Norm conformity



## Standard Features

1. Hypertherm MaxPro200 Power Source
2. Automatic Torch Height Control (Sensor THC)
3. ESA S650 Control Unit
4. Libellula CAD/CAM Software
5. Hypertherm Auto Gas control unit
6. Bridge driven with Servo Motors on both sides X Axis
7. Precise helical rack, pinion and linear dual guiding
8. CNC controlled outputs/inputs for vacuum table & filtering unit
9. Positioning accuracy  $\pm 0,1$  mm
10. Positioning speed 40 m/min
11. Torch collision sensor
12. Easy loading and unloading due to strong construction design
13. Independent bridge and cutting table design

## Optional Features

1. Hypertherm Edge Connect/TC CNC Unit
2. Other Hypertherm power source options (Page 16)
3. Auto Gas Console options (Page 18)
4. Lantek CAD/CAM software, automatic nesting
5. Hypertherm Pronest CAD/CAM software
6. Filter Unit
7. Consumables starter kit
8. Cutting head consumables
9. 5-Axes cutting head
10. Double bridge
11. Pipe cutting
12. Oxy cutting head
  - Tanaka Oxy Torch
  - Messer Oxy Torch
13. Multi Plasma heads
14. True Hole

## RECOMMENDED OTHER CONTROL UNIT



**HYPERTHERM  
CNC EDGE  
CONNECT**  
19 inc Touch Screen

## MULTI PLASMA OPTION



## 5 AXES BEVELING HEAD

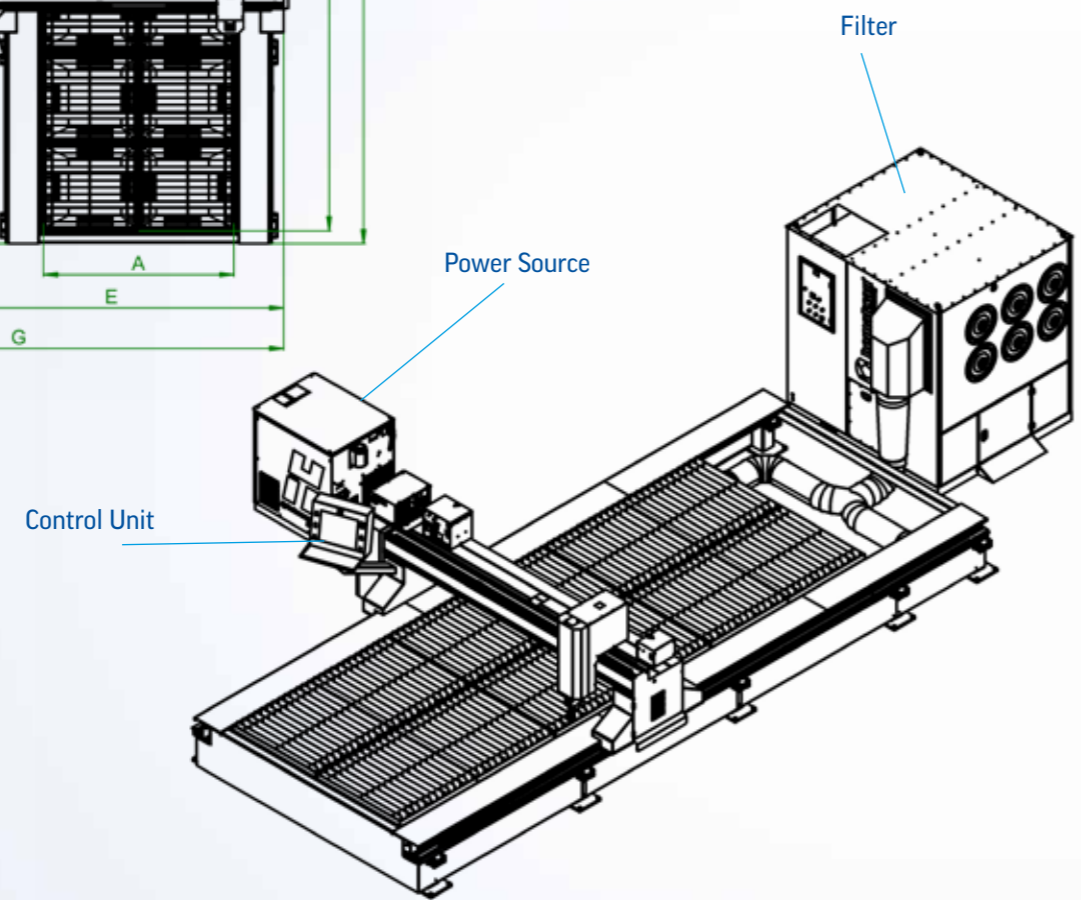
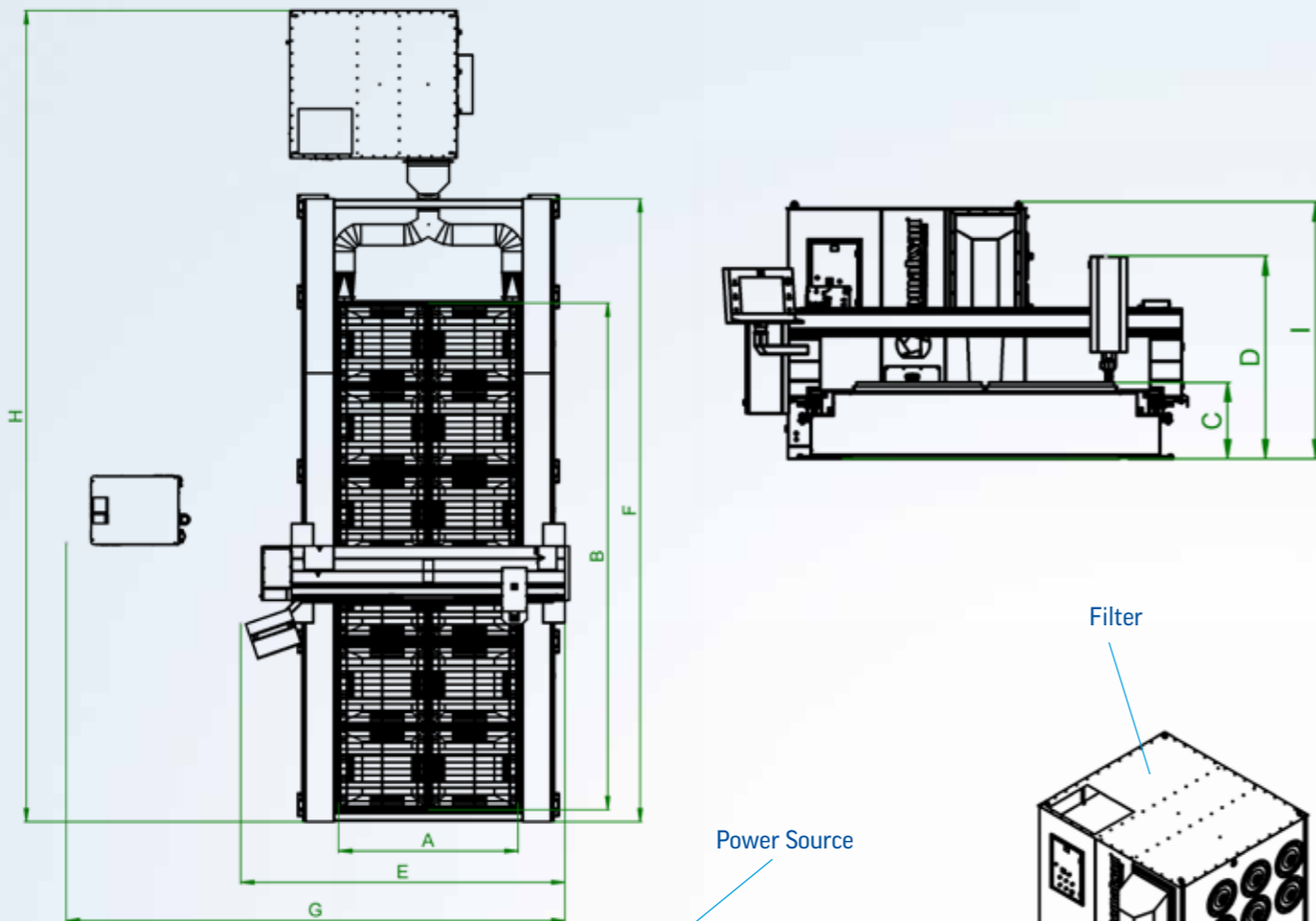
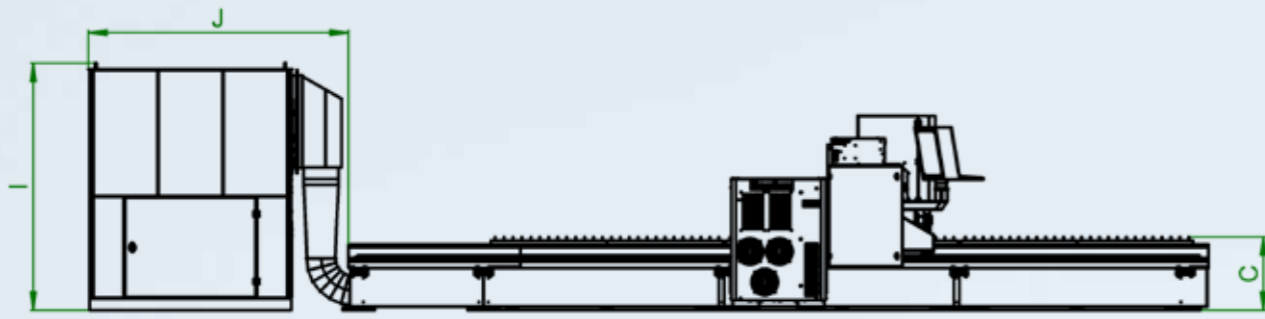


## OXY CUTTING HEAD



## PIPE CUTTING





## P-Series Technical Specifications

i-Plasma P-Series Plasma Cutting	Cutting Width	Cutting Length	Table Height	Height	Width	Length	Width (Including Power Unit)	Length (Including Filter)	Filter Height	Filter Length	
	A	B	C	D	E	F	G	H	I	J	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
A1500	3000	1600	3100	650	2000	3500	4500	5500	6500	2200	2000
A2000	4000	2100	4100	650	2000	4000	5500	6000	7500	2200	2000
	6000	2100	6100	650	2000	4000	7500	6000	10000	2200	2500
	8000	2100	8100	650	2000	4000	9500	6000	12000	2200	2500
A2500	12000	2100	12150	650	2000	4000	13500	6000	16500	2200	3000
	6000	2600	6100	650	2000	4500	7500	6500	10000	2200	2500
	8000	2600	8100	650	2000	4500	9500	6500	12000	2200	2500
A3000	12000	2600	12150	650	2000	4500	13500	6500	16500	2200	3000
	6000	3100	6100	650	2000	5100	7500	7000	10000	2200	2500
	8000	3100	8100	650	2000	5100	9500	7000	12000	2200	2500
A3000	12000	3100	12150	650	2000	5100	13500	7000	16500	2200	3000
	14000	3100	14150	650	2000	5100	15500	7000	18500	2200	3000

## P-Series Cutting Capacities

Cutting Capacity		Unit	HPR800XD	HPR400 XD	XPR 170	XPR 300	MaxPro 200	Power-max 105
Mild Steel	Clean Cut	mm	38	38	-	-	20	-
	Piercing	mm	50	50	35	45	32	20
	Edge Cut	mm	80	80	60	80	75	50
Stainless Steel	Clean Cut	mm	-	-	-	-	25	-
	Piercing	mm	75	45	22	38	25	20
	Edge Cut	mm	100	80	38	75	64	-
Aluminum	Clean Cut	mm	-	-	-	-	25	-
	Piercing	mm	75	45	25	38	32	20
	Edge Cut	mm	160	80	38	50	75	-
Plasma Power Source Specifications								
Max Positioning Speed	m/min	40	40	40	40	40	40	40
Positioning Accuracy	mm	+/-0,1	+/-0,1	+/-0,1	+/-0,1	+/-0,1	+/-0,1	+/-0,1
Repeatability	mm	+/-0,05	+/-0,05	+/-0,05	+/-0,05	+/-0,05	+/-0,05	+/-0,05
Output Current	A	800	400	170	300	200	105	
Process Amps	A	30-800	30-400	30-170	30-300	50-200	30-105	
Gas Console	-	Auto	Auto	CORE WVI OPTIMIX	CORE WVI OPTIMIX	Semi Auto	Manuel	
Cutting Angle	degree	2-5°	2-4	2-4	2-4	4-5°	5°	
Process Gasses	-	O <sub>2</sub> , N <sub>2</sub> , F5*, H35**, Air, Ar	O <sub>2</sub> , N <sub>2</sub> , F5*, H35**, Air, Ar	O <sub>2</sub> , N <sub>2</sub> , F5*, H35**, Air, Ar	O <sub>2</sub> , N <sub>2</sub> , F5*, H35**, Air, Ar	Air, O <sub>2</sub> , N <sub>2</sub>	Air, O <sub>2</sub> , N <sub>2</sub>	
Shield Gasses	-	N <sub>2</sub> , O <sub>2</sub> , Air, Ar	N <sub>2</sub> , O <sub>2</sub> , Air, Ar	N <sub>2</sub> , O <sub>2</sub> , Air, Ar	N <sub>2</sub> , O <sub>2</sub> , Air, Ar	Air, N <sub>2</sub>	Air, N <sub>2</sub>	

\*Technical specifications may change without advance notice

# MACHINE DETAILS

Quality Machine  
All about details

High quality and high precision machines are made from high quality equipments



## STEEL CONSTRUCTION

Our Plasma machines are durable and with high performance due to its strong steel body construction.



## HYPERTHERM CUTTING HEAD

High productivity, low operating cost, high cutting speed, long life and exceptional cutting quality.

Offers wide range cutting from very thin sheet thickness to very thick sheet thickness



## CNC CONTROL UNIT ESA / HYPERTHERM

Thanks to its easy operation, plasma processes can be efficiently and easily managed.



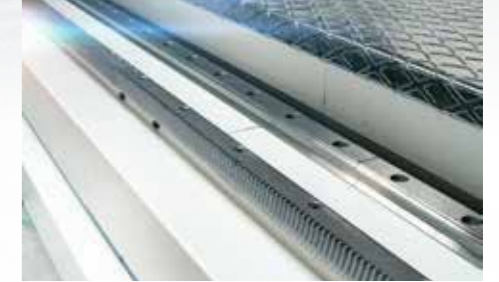
## HYPERTHERM POWER SOURCE

Efficiency, fast cutting, fast processing cycle provides high reliability with easy replacement of consumables.

Advantages: Superior cutting quality, minimum operating cost and maximum productivity.

## RACK PINION AND LINEAR GUIDING

CE Normu'na uygun lineer ray ve arabaları yüksek hassasiyetle çalışmaya uygun tasarlanmıştır.



## PARTIAL PNEUMATIC SUCTION SYSTEM

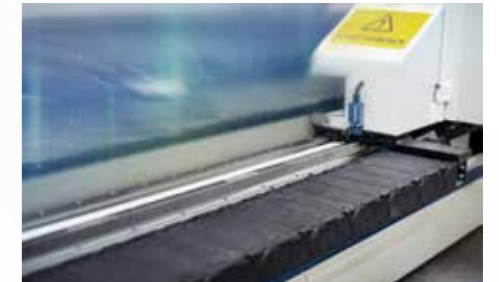
With the PLC software, pneumatically controlled hatches which are only at the cutting area are opened. With this way more powerful suction with less energy consumption can be achieved.



## CABLE TRAY CARRIERS

Cable channels in accordance with CE standards, silent operation, durability,

With its anti-friction and non-breaking properties usage life is much longer.



## AUTOMATIC TORCH HEIGHT CONTROL

Torch height control system continuously monitoring the surface of the sheet with ARC Voltage, allows to keep torch height at the desired levels.

This enables precise cutting results on uneven sheets (corrugated).

In the event of a fault or collusion, thanks to its sensors, the torch stops and protects itself.



## A/C SERVO MOTORS

High quality servo motors according to CE Norms are used at all Axes.

# CONTROL UNIT



## ESA S650

- 15 inch Touch Screen
- Multi Language options
- User friendly interface
- Ergonomic design

## HYPER THERM EDGE CONNECT CNC

EDGE® Connect, Hypertherm's newest Computer Numeric Control (CNC) platform, delivers unmatched reliability, powerful embedded capabilities, and a high level of customizability. Based on our proprietary, industry-leading Phoenix® CNC platform, the system offers new, advanced software features - including ProNest® CNC automatic nesting delivering SureCut™ technology - along with enhanced hardware.

For easy set up, changes, and upgrades, EDGE Connect CNCs can be configured in the field with software specific to the cutting machine application. The easy-to-use system combines advanced cutting performance with an intuitive graphical interface, and supports plasma, oxyfuel, and waterjet applications.

- With Patented CutPro® Wizard, even new operators can be cutting production parts in less than five minutes
- On-screen Software Operator's Console (Soft OpCon) allows easy setup and operation of cutting station and manual motion
- Integrated communications with plasma and torch height control systems deliver automated and expert control using installed factory or custom cut charts
- Custom cut charts can be created and controlled in the part program or made available to the CutPro Wizard
- EDGE Connect runs on the Windows® 10 Enterprise operating system

# CAD / CAM SOFTWARES



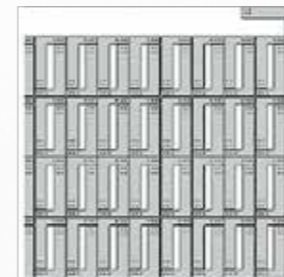
- Offers perfect nesting efficiency for automatic or manual part nesting
- Copy, move, reverse, turn alignment manual, semi-automatic, functions geometrical working
- Advanced nesting algorithm optimizes the use of a material, minimizing scrap.
- Can work with standard sheets stocked in the warehouse and/or with scraps obtained from previous processes.
- Automatic cutting path determination
- Time/Cost analyses
- Simulation before actual cutting
- Smart Part importer / Exporter from CAD system, DXF, DWG, IGES, Step etc file formats
- Part Drawing module, call parts, automatic or manual nesting, machining, CNC codes generates, Sheet metal stock searching etc
- Various input/output methods, film burning, specialized piercing, fast laser, micro-joints, head direction management, edge binding
- Complicated functions and program



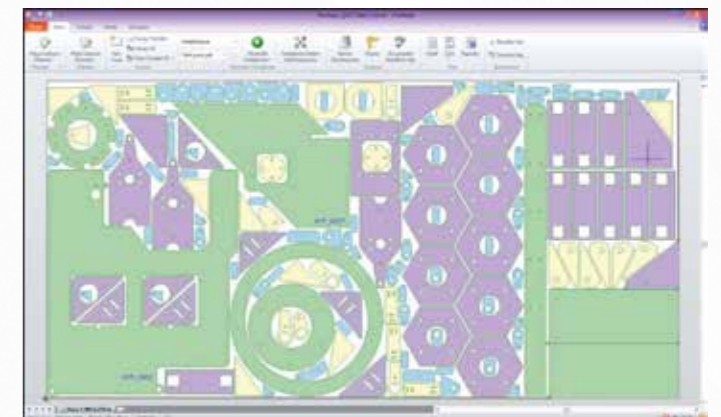
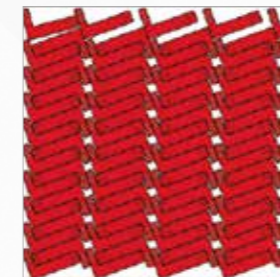
ProNest® LT (formerly known as TurboNest®) is a powerful CAD/CAM part nesting software designed for light industrial, mechanized cutting in production environments. It provides a single software solution for all your conventional plasma and oxyfuel cutting machines.

- Part design and development
- Integrated 2D CAD program to create and edit CAD files
- Variable Shape Parts library to develop common parts from templates
- CAD/CAM import and conversion
- Import CAD files (industry-standard file formats)
- Import PDF
- Raster to vector converts static images to CAD
- Automatic CAD file correction and error notification
- Automatic spline/ellipse smoothing and reduction
- Separate multiple parts from a single CAD file
- Automatic mapping of CAD layers to processes (cut, mark, etc.)
- Fast, easy job setup
- SureCut™ technology and built-in process enterprise
- Interactive manual nesting
- Detailed reporting
- Simplified costing
- Choice of output
- Post-processor with NC output
- DXF output

Conventional Nesting  
Scrap rate %31.7



Advance Nesting  
Scrap rate %22.2





# POWER SOURCE

## XPR 300 / XPR 170

The new XPR represents the most significant advance in mechanized plasma cutting technology, ever. This next generation system redefines what plasma can do by expanding its capabilities and opportunities in ways never before possible. With unmatched X-Definition™ cut quality on mild steel, stainless steel and aluminum, the new XPR increases cut speed, dramatically improves productivity and slashes operating costs. New ease-of-use features and engineered system optimization make the XPR easier to run with minimal operator intervention, while also ensuring optimal performance and unmatched reliability.

- Full control of all functions and settings via the CNC
- Automatic system monitoring and specific troubleshooting codes for improved maintenance and service prompts
- EasyConnect™ torch lead and one hand torch-to-receptacle connection for fast and easy change-outs
- QuickLock™ electrode for easy consumable replacement
- WiFi in power supply can connect to mobile devices and
- LAN for multiple system monitoring and service



## PowerMax Series

The Powermax® family of products consists of seven highly portable, professional grade air plasma systems. Built to withstand heavy duty use in demanding industrial environments, the systems are an ideal choice for hand or automated cutting and gouging of any electrically conductive metal; depending on system size, may offer a severance cut capacity up to 50 mm

- No need to change the air pressure – Smart Sense technology ensures that it is always correctly set; it also detects electrode end-of-life, automatically turning off power to the torch to prevent potential damage to other parts or to the workpiece
- SpringStart™ technology ensures consistent starting and a more reliable torch
- Drag cut at full output with a patented shield that reduces dross buildup for smoother cutting



## HPR400 XD / HPR800 XD

Delivers the ultimate in HyPerformance mild steel cutting as well as heavy-duty stainless and aluminum capability.

HyPerformance® plasma systems deliver superior productivity in X-Y, bevel and robotic cutting and marking applications on metal ranging up to 160 mm (6 1/4") thick. The combination of faster cutting speeds, rapid process cycling, quick changeovers and high reliability boosts throughput while dramatically lowering operating costs.

HyPerformance plasma cuts fine-feature parts with superior quality and consistency, eliminating the cost of secondary operations.

Patented PowerPierce technology extends robust production pierce capability to 45 mm (1 3/4") with 400 amps and 75 mm (3") with 800 amps. Combined with a controlled motion process, the technology provides maximum stainless pierce capability up to 75 mm (3") with 400 amps and 100 mm (4") with 800 amps.

Liquid cooled shield repels molten material during piercing and cutting to minimize torch damage, and improves shield robustness to reduce downtime and lower operating cost.



## MaxPro200

MAXPRO200® LongLife® plasma cutting system is engineered for heavy-duty, high capacity cutting and gouging applications. The easy-to-use system operates with either air, oxygen, or nitrogen plasma gas, and combines fast cutting speeds and quick process changes to maximize productivity. Advanced Hypertherm consumable designs – including LongLife® technology – improve cut consistency and significantly increase consumable life to lower your cost per part.



# GAS CONSOLE

## Core Console (Standard)

Unmatched mild steel cutting performance and superior angularity and edge finish on stainless steel up to 12 mm (1/2"). This is delivered through a new N<sub>2</sub> HDi® process that prevents the mixing of air into the plasma gas, creating an improved, brighter edge finish.



XPR HyDefinition  
N<sub>2</sub> HDi  
Vent-to-Shield

O<sub>2</sub>  
N<sub>2</sub>  
Air

## Vented Water Injection (VWI) Console (Optional)

All Core console capabilities plus argon marking and a more than 10% increase in piercing thickness with argon-assist. Significantly enhanced stainless steel and aluminum capabilities are delivered with the addition of F5 HDi processes and patent pending Vented Water Injection (VWI).



XPR HyDefinition  
N<sub>2</sub> HDi  
Vent-to-Shield

O<sub>2</sub>  
N<sub>2</sub>  
Air

F5  
Argon  
H<sub>2</sub>O

The essential feature of this gas console is that water can be connected, if desired, instead of shield gas. If water is used instead of shield gas, the cutting quality is increased in aluminum and stainless steel. Water is being not used for mild steel cutting.

## OptiMix™ Console (Optional)

This gas console can do anything that the other two gas consoles can do. In addition, we can connect H<sub>2</sub> gas to this gas console. This console is doing its own Argon - H<sub>2</sub> blend/mixture. In the past, H35 gas was used to cut stainless steel well. This gas (H35) is premixed. Finding this gas is difficult and expensive in some areas, so you no longer need such a premix gas (H35) like before. If the OptimiX gas console is used, the H<sub>2</sub> (Hydrogen) gas will be connected separately, the Argon gas will be connected separately, the mixture will make up the gas console itself.



3-gas mixing

Argon-assist gas  
F5 HDi  
Vented Water Injection

XPR HyDefinition  
N<sub>2</sub> HDi  
Vent-to-Shield

O<sub>2</sub>  
N<sub>2</sub>  
Air

F5  
Argon  
H<sub>2</sub>O

H<sub>2</sub>

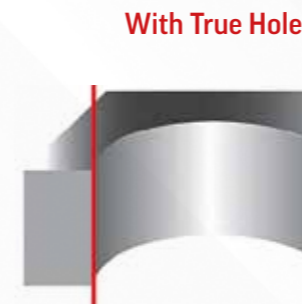
	Core	Vented Water Injection (VWI)	OptiMix
O <sub>2</sub> /N <sub>2</sub> /Hava	X	X	X
F <sub>5</sub> /Ar/H <sub>2</sub> O <sub>2</sub>	-	X	X
H <sub>2</sub> - N <sub>2</sub> - Ar karışımı	-	-	X

# TRUE HOLE OPTION

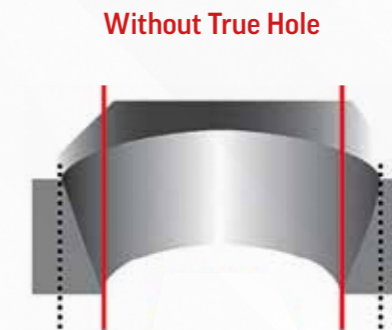
## True Hole Technology

GTrue Hole®, part of Hypertherm's SureCut™ technology was launched in 2008 with the HPRXD® autogas family of products. It is now also offered on Hypertherm's new XPR300™ system. TrueHole for mild steel produces significantly better hole quality than what has been previously possible using plasma. Equally important, True Hole technology is delivered automatically without operator intervention, to produce unmatched hole quality.

As part of Hypertherm's SureCut technology, True Hole® for mild steel is exclusively available for use in conjunction with Hypertherm's HPRXD® and XPR300™ plasma systems. True Hole is automatically applied by nesting software or CNC software to thicknesses up to 25 mm (1inch).



With True Hole



Without True Hole

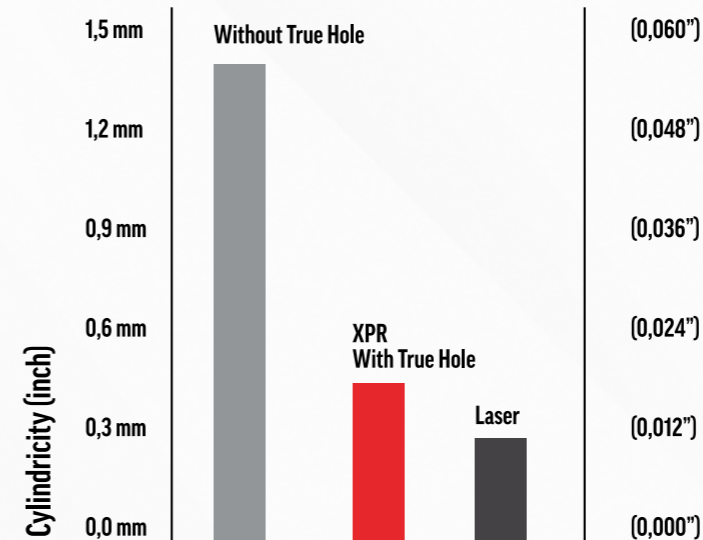
With True Hole



Without True Hole



10 mm holes, 9.5 mm mild steel plate,  
130A process (0.394" holes, 3/8" mild steel plate)



# HEAD OPTIONS

## BEVELING HEAD (5 Axes)

MVD 5 Axes beveling head is designed for 3D and angle cutting. Up to 45° all the angles are calculated automatically and created so the operator can input the desired angles as needed.

Also the straight vertical cuts can be done, reduced maintenance due to height detection sensor.

- Automatic angle adjustment
- Time saving - short setting time
- Excellent cutting and contouring
- Low production costs
- Offers bolt hole quality



## Oxy Cutting

MVD CNC Controlled plasma cutting machines also provide oxygen cutting capability. With our oxygen head equipped machines up to 200 mm cut can be done and this limit can be increased with special design options.



## Plasma Cutting

The MVD Plasma series uses Hypertherm's patented technologies for quality, more power, more precision and more consistent cutting.

**Power Pierce:** Repels molten metal during piercing allowing strong production piercing

**LongLife:** Gas intake and flow rate is adjusted under control.

**HyDefinition:** Arkı hizalar ve odaklar, üstün kaliteli ve tutarlı kesme

**HyDefinition :** Delivers increased arc density and cut speeds while maintaining arc stability and smoother cut edges.

- Increases number of cuts per hour
- Decreases cost per cut



# DUST COLLECTOR FILTER SYSTEM

During plasma cutting operations filter is needed for extraction of smoke, dust and emissions.

Creates a more better working environment for everybody, specially for plasma operators.

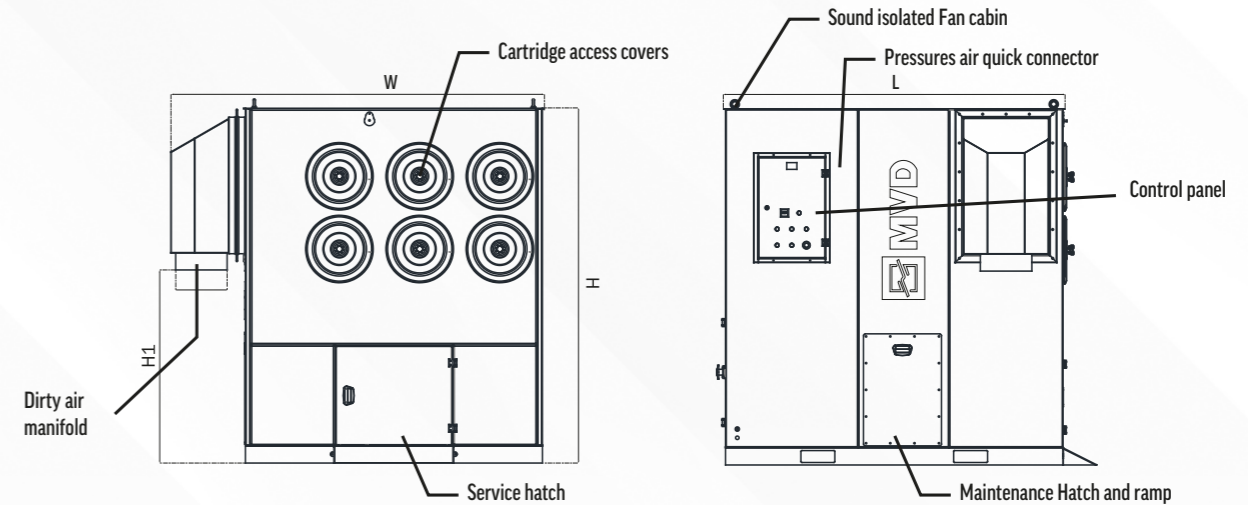
Shipped in one piece by means of its specially defined dimensions, this way all accessories and pre-set and ready to startup.

Particles carried by the dirty air entering through the side walls of filter cabin are held by means of a crashing plate. In this section, speed of the air is decreased and desired filtering rates are obtained. In addition, sparks that may touch the filter and big and corrosive particles are directed to the

collecting bucket underneath the bunker. Thus, life of the filters is increased.

Other dusts and smokes that constitute the polluted air are held by BIA-approved filter materials tested according to DIN EN 60335-2-69 appendix AA and selected according to the application. Dusts held are automatically cleaned thanks to jet pulse cleaning system. Cleaned air is absorbed from the cabin by means of a fan and released to the environment desired.

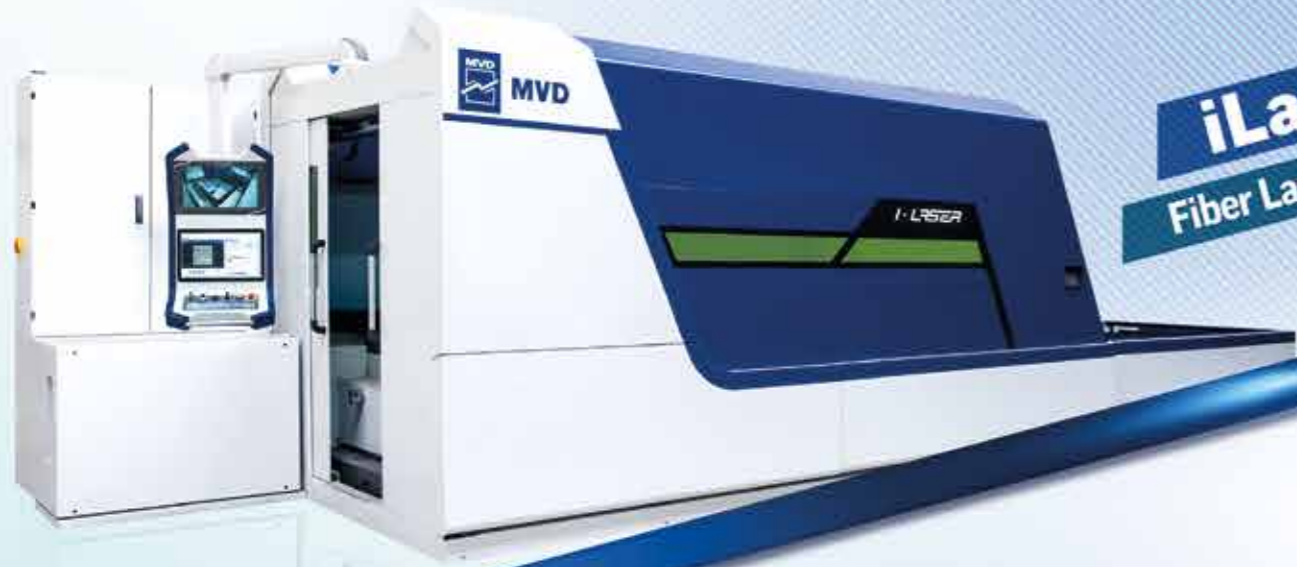
- Kompakt kolay taşınabilir
- Kolay bakım hızlı kartuş değişimi
- Sessiz < 70 db (A)



## Technical Specifications

MODEL	2500	4000	6000	8000
Number of filter (pcs)	3	4	6	8
Total filter surface area(m²)	60	80	120	160
Filter Material Type	NanoBlend FR	NanoBlend FR	NanoBlend FR	NanoBlend FR
Fan capacity (m³/h)	2.500	4.000	6.000	8.000
Air flow rate (m³ /m² /min)	0,69	0,83	0,83	0,83
Pressure dissipation (Pa)	2.750	2.750	2.750	2.750
Motor Power (kW)	3 kW	5,5 kW	7,5	11
Pulse Valves (Type - Qty)	1" - 3	1" - 4	1" - 6	1" - 8
Air compressor pressure (bar)	4-6	4-6	4-6	4-6
Power Input (V / Hz)	380V 50Hz	380V 50Hz	380V 50Hz	380V 50Hz
Operating Temperature (C°)	0/80 Dry Air	0/80 Dry Air	0/80 Dry Air	0/80 Dry Air
Max abin Pressure (Pa)	Max. 5000	Max. 5000	Max. 5000	Max. 5000
<b>Dimensions</b>				
Width (W) (mm)	1.700	1.700	2.200	2.750
Length (L) (mm)	2.000	2.000	2.000	2.100
Height (H) (mm)	2.100	2.100	2.100	2.100
Air Input Height (H1) (mm)	1.150	1.150	1.150	1.150
Air Input Diameter (ID) (mm)	Ø200	Ø250	Ø300	Ø350

\*MVD Makina, may change the datas mentioned above without advance notice.



**iLaser**  
Fiber Laser



**iPunch**  
Turret Punch



**iBend**  
Press Brake



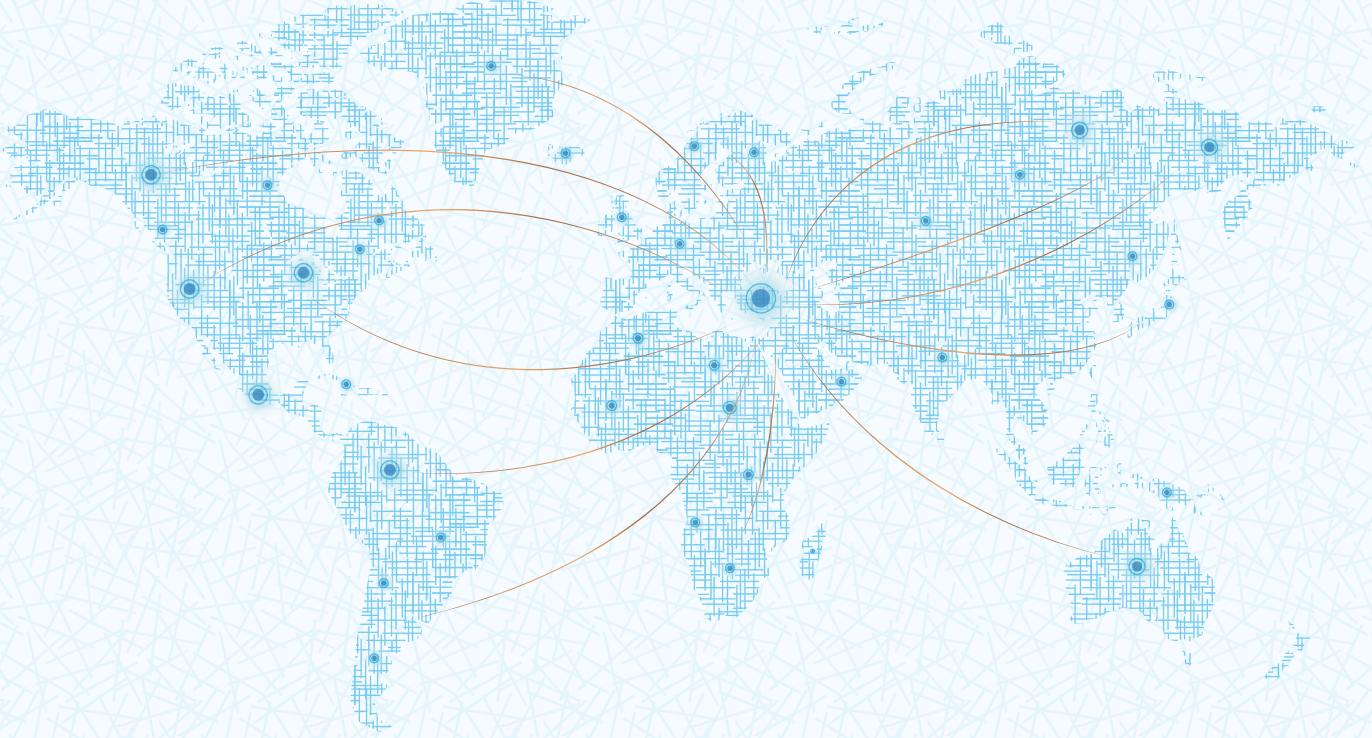
**iPlasma**  
Plasma-OXY Cutting



**iShear**  
Guillotine Shear

**iExpand**  
Expanded Metal Press





[www.mvd.com.tr](http://www.mvd.com.tr)



**MVD**

**MVD Makina Sanayi A.Ş. MVD Inan Takım Tezgahları Sanayi A.Ş.**

+90 332 239 2233 (pbx)

+90 332 239 21 21

37° 58' 59" N, 32° 36' 34" E

[www.mvd.com.tr](http://www.mvd.com.tr)

[info@mvd.com.tr](mailto:info@mvd.com.tr)

Konya Organize Sanayi Bölgesi Evrenköy Cad.1 Nolu Sokak No: 3 42050 Konya / Türkiye



**MVD USA**

**MVD USA Inc.**

+1 847 350 1865

+90 332 239 21 21

41°59'10.4"N 87°58'16.2"W

[www.mvd-usa.com](http://www.mvd-usa.com)

[info@mvd.com.tr](mailto:info@mvd.com.tr)

2800 Lively Blvd., Elk Grove Village Illinois, 60007 USA



MVDMakina