IPT

BROCHURE

master-kut

MODULAR PLASMA SYSTEM FOR PROFESSIONALS

Hypertherm®

SureCut™

CONTENT

ALLOCUTION

- **2010 - Established**
- **Armands Sakne - Owner**
- **2010 - Hypertherm Europe OEM**
- **2011 – HPR Service & Training Certification**
- **2012 - First power-kut machine**
- **2015 – First export**
- **2017 - XPR Service & Training Certification**
- **2019 - First power-kut machine with XPR**

On behalf of the company, I thank you for your interest in IPT plasma cutting systems.

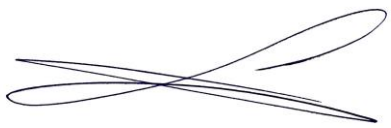
IPT (Industrial Production Technologies) is a family business. For two generations, metalworking is a tradition of our family. Many years of experience and expertise enable us to help you understand what equipment is needed to work successfully in the steel cutting business.

We consider our ability to adapt quickly to change, integration of new and innovative solutions into our plasma cutting systems as our greatest advantage. We only offer the world's best technologies.

We take care that our equipment will serve you well and with profit. Developing and maintaining mutual loyalty and achieving excellent results - our ultimate goal. Looking forward to long-term cooperation!

Wishing all the best,

Armands Sakne



master-kut

IPT **master-kut** is a compact size platform of plasma cutting cystem that includes many of the preferred features of the **master-kut** cutting machine.

The IPT **master-kut** is a CNC x-y programmable plasma cutting system that can incorporate either traditional non-HyDefinition® "air" plasma power supply unit, or upgraded to include Hypertherm HyDefinition® and X-Definition® plasma systems.

Whether integrated with a HyDefinition® and X-Definition® plasma torch, or with a traditional "air" plasma torch, the IPT **master-kut** is designed and built to the same performance and durability standards as all IPT Cutting Systems. The IPT **master-kut** unitized machine frame is machined in one single set-up, resulting in the highest achievable accuracies of motion of any plasma cutting system on the market. The IPT **master-kut** uses the same controls, motors, drives and controller as the IPT **power-kut** achieving superior motion accuracy and precision.

The IPT **master-kut** uses standard all Hypertherm technology including:

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

The IPT **master-kut** includes integration of the Hypertherm HyDefinition® and X-Definition® plasma power supply unit, the upgrade to the Hypertherm full ProNest Software.

The **master-kut** can include the optional IPT **robo-kut** 5-axis Bevel Head. The **master-kut** also often includes oxy-fuel torch(es) technology for cutting thicker steel plates for the highest production applications.

Hypertherm® SureCut™

PLASMA V.S. LASER

ISO 9013: 2017 defines the geometrical specification and quality tolerances of products, the classification of thermal cuts that govern the cutting of oxy-fuel, plasma cutting and laser cutting. It is applicable to plasma cuts from 0.5 mm to 150 mm and laser cuts from 0.5 mm to 32 mm.

ISO 9013: 2017 Quality Cutting Quality Range:

> 1 2 3 4 5 >

Laser cutting cut qulity – Range 2

master-kut	ISO Cut Quality Range	How close to laser cut quality
XPR X-Definition*	2+	95%
HPRXD Hy-Definition **	3+	80%
MAXPRO200	4+	50%
POWERMAX	4+	30%

* XPR - ISO Range 2 with new consumables plasma processes 80A and 130A. Mild steel up to 10mm thick.
** HPRXD - New consumables plasma process 130A. Mild steel up to 10mm thick.

WARRANTY

master-kut	Time/Years	Service Program	Customer Support
HPRXD Hy-Definition	4	IPT LOG	PLP
XPR X-Definition	4	IPT LOG	PLP
MAXPRO200	2	Standarta	PLP
POWERMAX	2	Standarta	PLP

IPT LOG - **master-kut** network monitoring is carried out in cooperation with Hypertherm CNC interface internet connection module for remote monitoring of cutting system. XPR systems available soon.

Standard - **master-kut** without online remote monitoring system.

PLP-Plasma Loyalty Program is a Plasma Loyalty Program based on mutual trust between the machine owner and IPT. The program includes the purchase of consumables, service parts and other services from IPT only. To receive additional extended warranty terms and goods in exchange, depending on the total amount of purchased goods within one calendar year. It can be special discounts or bonus service and consumable parts.

Taking into account the specific of the equipment, the natural wear, consumables and the maintenances that it needs and parts that not manufactured by IPT are not covered by the warranty:

- Cutting material
- Parts for metal finishing
- Consumables
- Air filters and cooling fluids

The usage of non original genuine consubales or other parts that are not provided with IPT will void the warranty. Machine equiped with the IPT LOG system must be provided with continuous internet-connectivity. Unauthorized termination of the Internet connection may be considered as a reason to discontinue the IPT program and the expiration of the warranty.

During the service warranty period, specially trained engineers are provided by IPT OU Latvian branch. It is recommended to use original Hypertherm® parts and IPT OEM spare parts to maintain the machine's performance and reduce physical wear and tear.

SPECIFICATION

Electrical feed

Name	Power (kW)		Recomended fuse (A)	(V)
Chassis		5	25	400
Plasma Power Supply	HPR130XD	19,5	160	400
	XPR170	37,5	200	
	XPR300	63,0	250	
	HPR400XD	80,0	400	
Fume Extraction Unit		Min.- 7.5	64	400
Air compressor		7	25	400

Gas supply XPR170/300 Core, VWI, OPTIMIX

Gas type	Description	Pressure
XPR300 CORE O2 (oxygen)	99.5% clean, dry, oil free	7.5 bar ± 0.4 bar
XPR300 CORE N2 (nitrogen)	99.5% clean, dry, oil free	7.5 bar ± 0.4 bar
XPR300 CORE Air	tīrs, sauss, eļļas koncentrācija atbilstoši 8573-1: 2010 klase 1.4.2	7.5 bar ± 0.4 bar
XPR300 VWI Ar (argon)	99.5% clean, oil free	7.5 bar ± 0.4 bar
XPR300 VWI H20 (water)	Soft drinking water	
XPR300 OPTIMIX H2	99.5% clean, oil free	7.5 bar ± 0.4 bar

Procesing XPR170/300 Core, VWI, OPTIMIX

Material Type		mm
Production pierce	Mild steel CORE, (O2) process	45
	Mild steel VWI and OPTIMIX with (Ar) assist	50
	Stainless steel	38
	Aluminium	38
Edge start	Mild Steel	80
	Stainless steel	75
	Aluminium	50

KEY FEATURES

IPT **master-kut** offers these unique features & benefits:

- Heavy-Duty “Unitized” One-Piece Frame Machine Tool
- Removable/Replaceable Slat Table System
- Cutting Table 200mm Thick Full Plate Load Capacity
- Down Draft Air Table with section air control valve system
- X-axis Dual Synchronized Helical Rack & Pinion Drives on both sides
- Bridge Single Y-axis Helical Rack & Pinion Drive
- Z-axis Hypertherm Sensor™ Advanced Torch Height Control (THC)
- Hypertherm Powermax “air” Plasma Power Unit & Torch (optional Hy-Def Unit)
- Side Clean-Out Doors for Manual Scrap/Slag Removal
- Magnetic Breakaway Torch
- Laser Pointer for Plate Alignment and Location Finding
- Hypertherm Edge Connect™ CNC Controller
- 19” Color Touch Screen Operator Control Console Hypertherm ProNest™ LTS Programming Software
- +/- 0.05 mm per 100 mm Accuracy of Motion
- 30000 mm/min travel speed

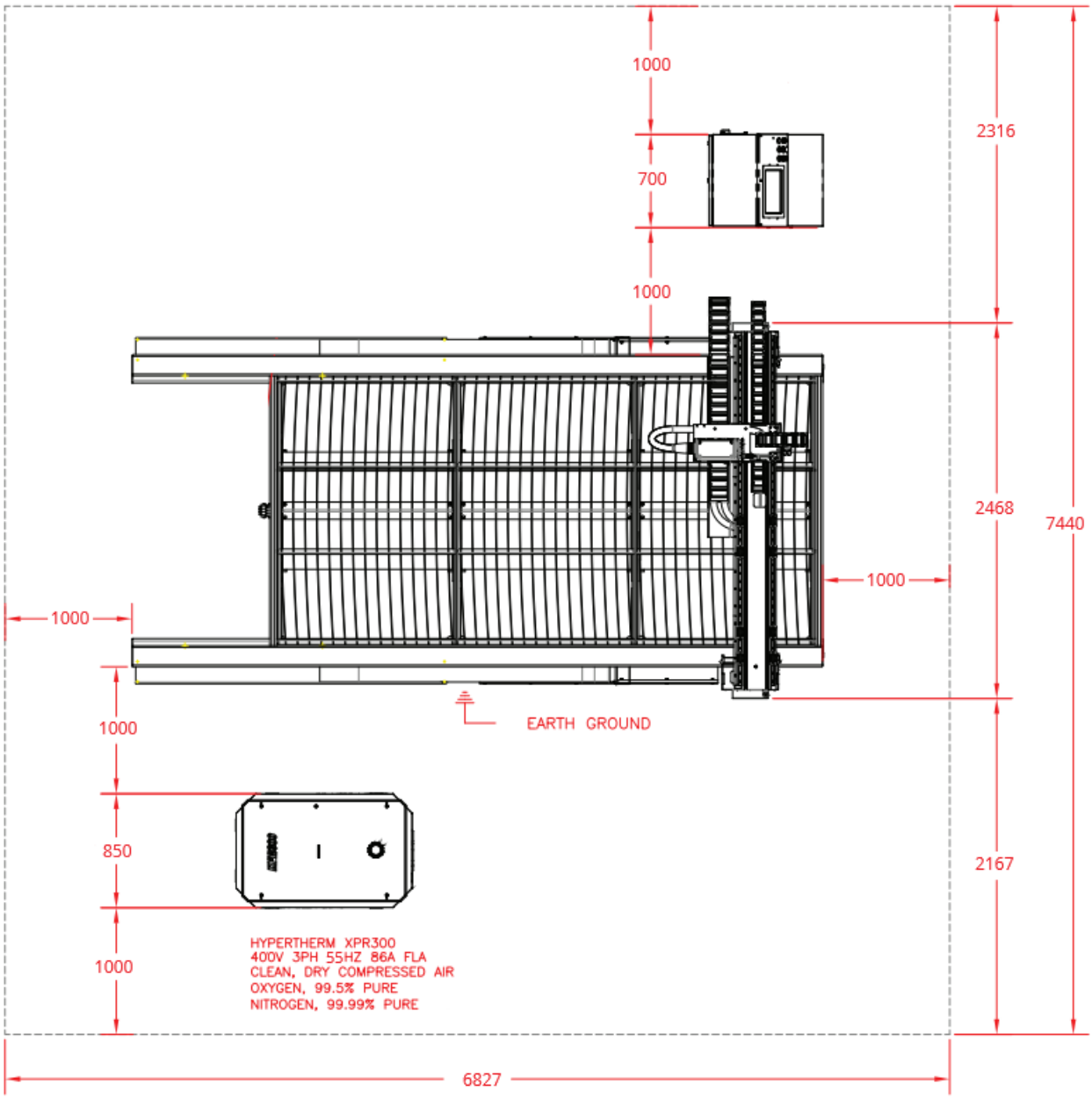
STANDARD FEATURES

FEATURES	Nomenclature
Fully assemble cutting system	Yes
Torch	1
Standard letgh:	3000 mm
Standard width	2000 mm
X and Y axis helical racks and pinions	Yes
Cable try	Yes
Emergency stop buttons	3
End swithces	Yes
Laser pointer	Yes
Inductice electric cabinet cooling	Yes
CNC independent cabinet	Yes
Mine electrical cabinet	Yes

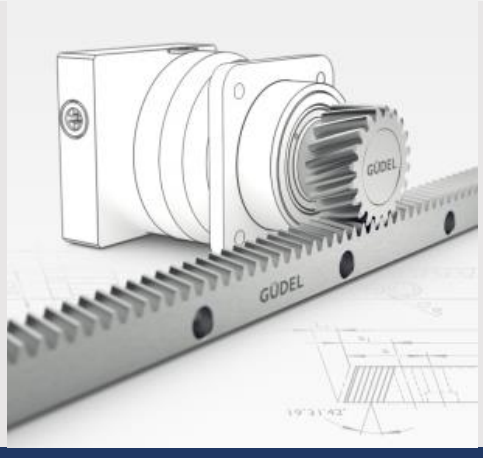
CNC	Nomenclature
Edge Connect – Hypertherm	Yes
OS	Windows 10
Machine interface	Phoenix 10
Ultra sound touch screen	19 collas
Memory drive	SSD
Advanced SureCut interface	Yes
Help library	Yes
Cut sample library	Yes
Remote Help	Yes
Internet connection	Wifi / LAN
Plasma interface	CAN
I/O protocol	EtherCat

MACHINE LAYOUT

Model (CM)	G8	G10	G12
Standard width	2000	2500	3000
Standard legth	3000		



KOLLMORGEN AKD servo drives & AC servo motors – AKM



GUDEL helical racks & pinions

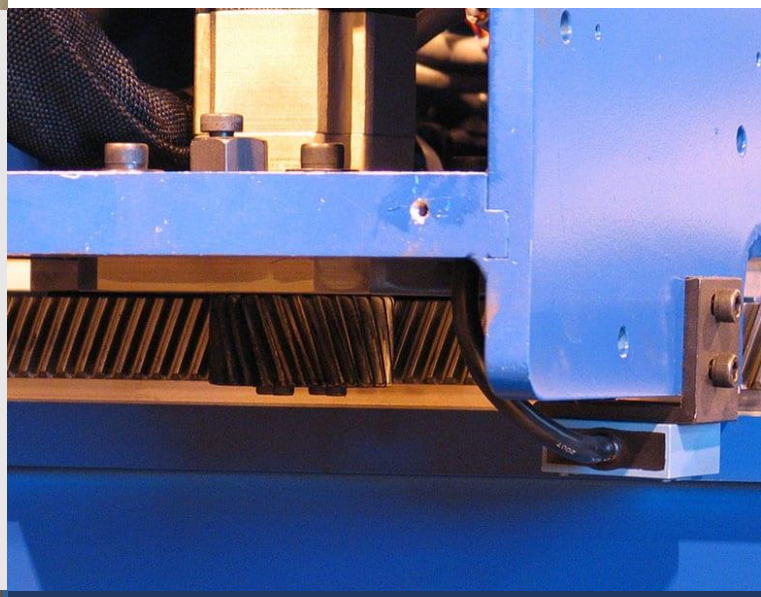
Hypertherm Sensor™

- Magnetic breakaway torch
- Z-axis Hypertherm Sensor™ Advanced THC

master-kut unitized frame is machined in a single set-up, resulting in the highest accuracy of motion in any plasma cutting system on the market.

SPECIFICATION

- +/- 0.05 mm per 100 mm accuracy of motion
- 30000 mm travel speed
- Standard cutting width: 1.5 m
- Standard cutting length: 3 m

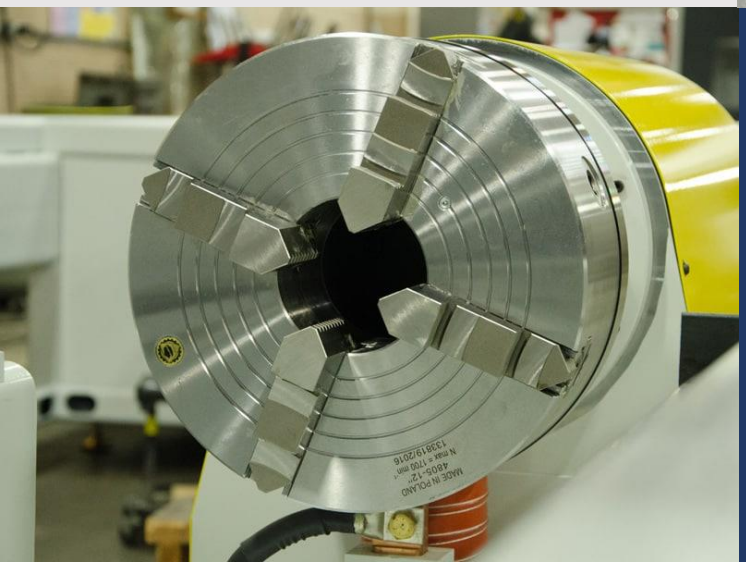


Side Clean-Out Doors for Scrap / Slag Removal on Downdraft Table

tube-kut

- 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.

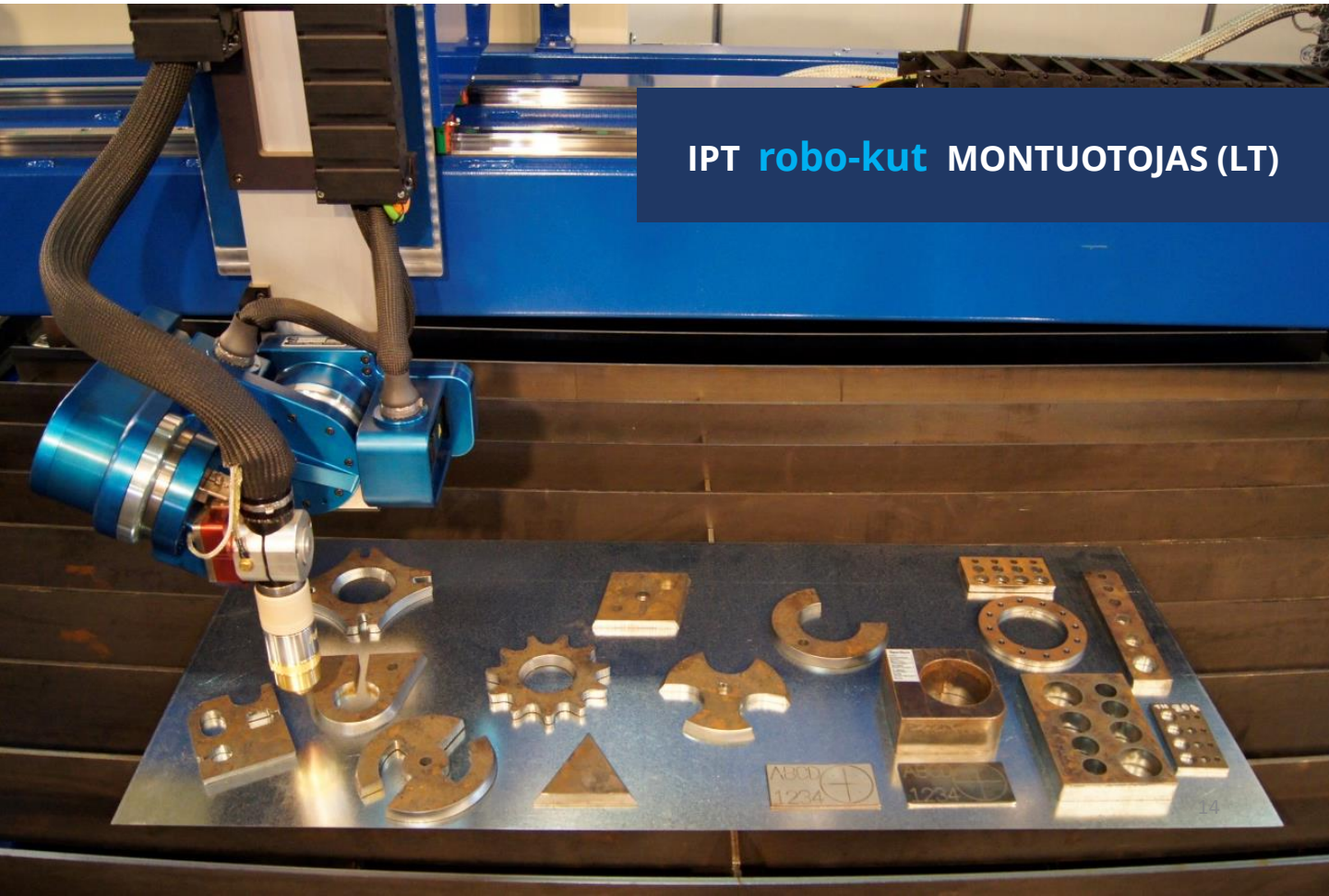


- Together with the robo-kut 5-axis Bevel Head and servo-controlled THC—Torch Height Control, and using the Hypertherm Rotary Tube Pro Software Module, the tube-kut cuts up to 8”x 8” standard tube or 300 mm round pipe, up to 6 m. long, with maximum weight of 500kg

robo-kut

robo-kut is the most powerful plasma cutting 5-axis bevel head in the industry. The 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 robo-kut can produce a 12.5mm diameter "bolt ready hole" in 25 mm thick steel plate, for a ½ : 1 ratio for hole diameter.



IPT robo-kut MONTUOTOJAS (LT)

Hypertherm® SureCut™

SureCut™ technology maximizes performance by providing embedded expertise through a combination of tools that includes plasma power supplies, CNC and CAM software..

TRUE HOLE®

As part of Hypertherm's SureCut™ technology, True Hole® for mild steel produces significantly better hole quality than what has been previously possible using plasma.

TRUE BEVEL®

Factory tested and easily implemented, it takes the guesswork out of the plasma bevel-cutting process.

RAPID PART®

Achieve greater productivity by reducing cut-to-cut cycle time. Rapid Part™ controls and optimizes every step in the plasma cutting process – without operator intervention.

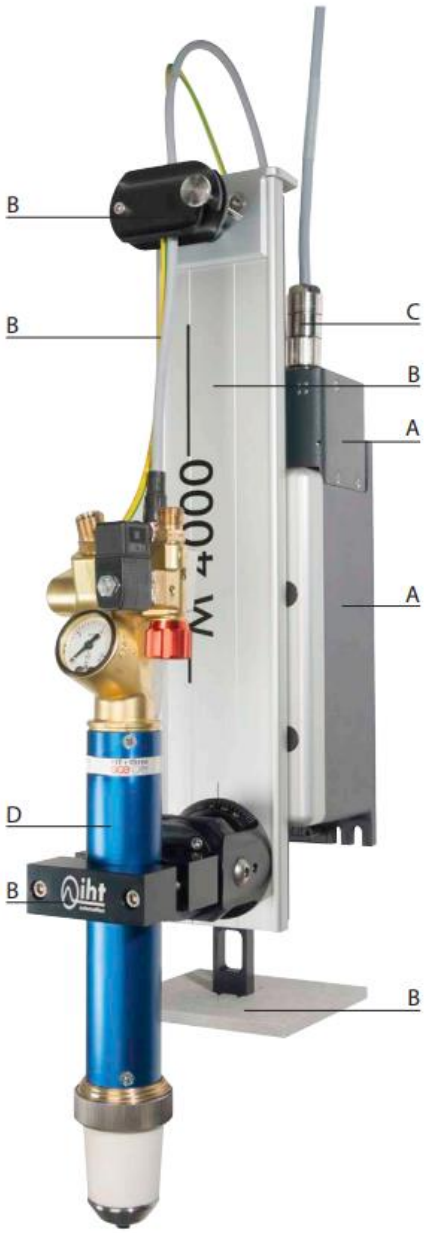
Only IPT Cutting Systems is full-process SureCut™ functional. Is your plasma cutting system SureCut™?

master-kut best with the XPR300

Maximum open-circuit voltage	360 VDC
Maximum output current -	300 A
Maximum output power	63 kW
Output voltage	50–210 VDC
100% duty arc voltage	210 V
Duty cycle rating	100% at 63 kW, 40° C Operational ambient temperature range -10° C –40° C
Power factor	0.98 @ 63 kW
Cooling Forced air	Class F)
Insulation	Class H
EMC emissions classification	(CE models only) Class A
Lift points Top lift eye weight	rating 650 kg
Bottom lift truck slots	

XPR300 X-Definition

IHT M 4000 FIT+ oxy-fuel



Oxy-Fuel Height Control System with Cutting Torch and Integrated Ignition

- Fully integrated Oxy-Fuel Cutting System with Cutting Torch, Flame Ignition, Height Sensing and Lifter- all in one package
- Flashback detection
- Fits on all carriages
- Easy integration with the CNC controller
- Works with all common CNC controllers on the market
- Optional fieldbus connectivity
- Modular approach allows highest flexibility
- Selection of best components ensures high cutting quality and productivity

Application Fields

- Oxy-Fuel cutting machines for straight cutting of up to 300 mm thick sheets
- Single or multi torch applications
- 100 % compatible with the plasma systems IHT M 4000 PCS and M 4000 BAS
- Cut sheets up to 100 mm thickness when used with active height sensor and up to 300 mm with Splash Protector

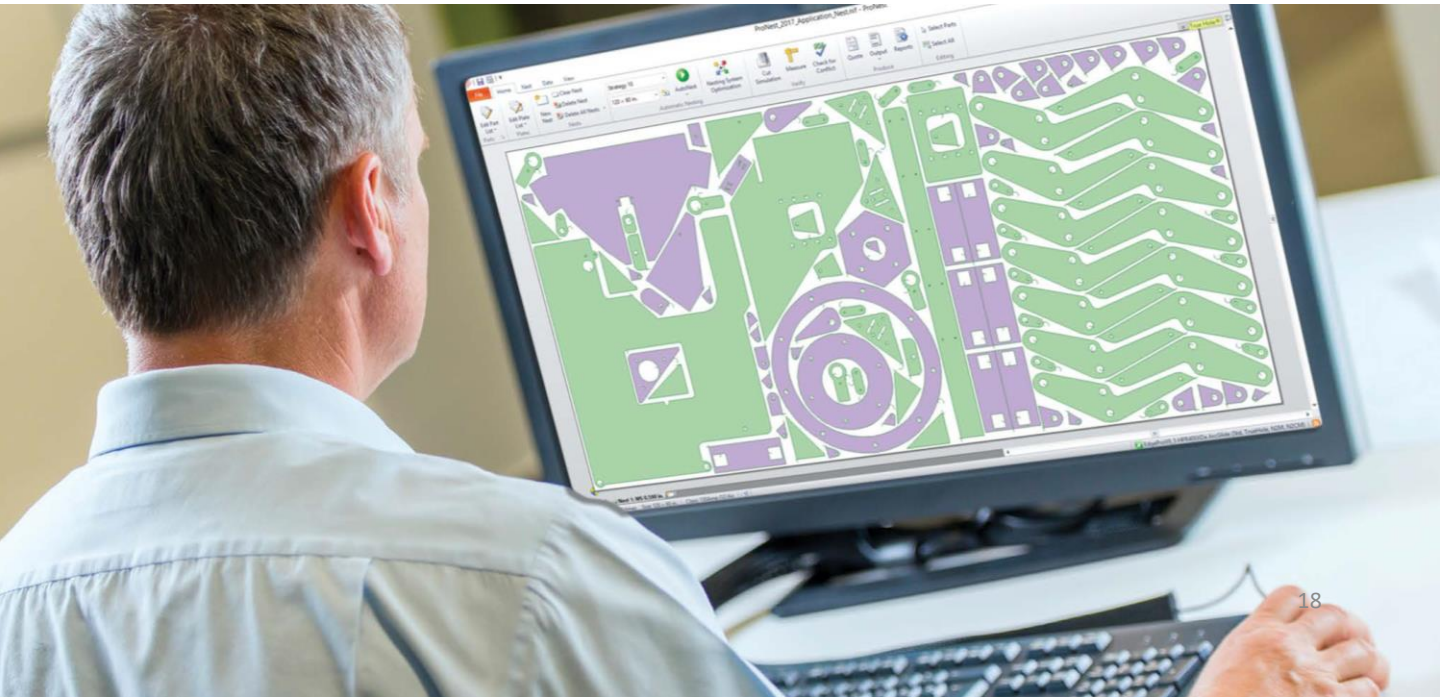
PRONEST CAD/CAM

Hypertherm ProNest is an industry leading CAD/CAM nesting software designed specifically for advanced Hy-Definition plasma cutting.

ProNest helps fabricators and manufacturers increase material savings, boost productivity, lower operating costs, and improve part quality by offering the highest level of cutting expertise to directly translate part drawings into creating cut programs.

PRONEST™ 2019 MODULES

- AutoCAD Inventor
- Automatic Nesting
- Chain and Bridge Cutting
- Collision Avoidance
- Common Line Cutting
- Creo ProE
- Data Sync
- Nesting System Optimization
- Pipe and Fittings
- Plate Inventory
- Skeleton Cut Up
- Solid Works
- Work Order Processing



HORIZONTAL CARTRIDGE DUST COLLECTOR OPF - P

The horizontal cartridge filter OPF-P manufactured by Tama Aernova can be used in various setups of IPT cutting systems for a wide range of different types of dust.

Filter dimensions (mm)	2250 x1450 h=3653
Nominal air flow [Nm3/h]	6600-8800
Filtering surface [m2]	168
Filtering media	Cartrige (Class M)
N. filtering media	8-16
Dimensions filter element	Ø325 H=660
Fabric of filtering media	Cellulose with nanofiber 130 gr/m2
Max. working depression [Pa]	5000
Working temperature	- 10°C up to +40°C
Compressed air consumption (l/min pie 5,5 bar)	360
N. electrovalves	8-16
Type of electrovalves	Ø1"- 24V DC
Tank working pressure [bar]	5.5
Compressed air connection (ISO class 2.4.1 8573-1:2000)	Ø1/2"
Pressure drop of the offered filtration unit (Pa)	1700Pa - 1800Pa
Electric feeding for fan	400 V Three phases + Earth 50Hz Start: Delta-Star
Fan nominal power	7,5-15 kW
Motor efficiency	IE 3

AIRPOL KT7 SCREW COMPRESSOR

Manufacturer	PPS AIRPOL SP. z.o.o., Poland
Model	AIRPOL KT 7
Type	oil lubricated
Air delivery if max pressure 10 bar	0.95 m3/min
Motor power	7,5 kW
Feed voltage	400 V / 60 Hz
Feed cable cross section	4 x 4
Protection fuse	25 A
Drive	Belt
AIRPOL Power Control	Microprocessor controller
Cooling air requirement	1200 m3/h
Pressure dew point	+3 C
Compressed air quality	ISO 8573.1 2.4.2
Noise level	72 dB A
Ambient temperature (min/max)	+5 / +45 °C
Compressed air temperature above ambient	10°C higher than ambient
Compressed air connection	G 3/4“
Tank volume, liters	500
Dimensions (LxWxH)	1922 mm x 660 mm x 1450 mm
Weight	370 kg