



# PANTHER SERIES GANTRY TYPE CUTTING SYSTEM



High speed dual sided drive gantry provides accurate and repeatable cutting. The Panther series gantries are fitted with hardened and ground rails, which makes it highly durable and enables consistent performance over many years. The machine uses state-of -the art technology in cutting (plasma or oxy-fuel), electronics and software. Coupled with decades of experience in cutting and welding, our strong service network, unbeatable technology, Panther series gantries provide real VALUE FOR MONEY.

#### **FEATURES** :

- 3 Axis Gantry with high precision machined Rack and Pinion Drives
- · Precision Linear Rail Y-Axis guideway
- Reinforced steel welded construction for rigidity
- · Machined Mating Surfaces for high stiffness and accuracy
- Digital AC Servo drives and motors for high speed, superb control, high precision and high repeatability
- Precision low backlash (<3 arcmin) heavy-duty Gearboxes for smooth motion
- · Cable drag chains for hoses and cables
- Positioning Accuracy: +/- 0.2mm, Repeatability: +/- 0.1mm
- Machined Heavy-Duty Rail for Accuracy and Durability
- · Heavy Duty Welded Rail Mounting Pedestals
- Precision drive rack mounted directly on machined surface of rail for precise alignment
- Drive speed upto 10m/min
- · Bluetooth ready

#### **MORE FEATURES (OPTIONAL :**

- · Working length- unlimited using standard railsections
- · Fully automatic Nesting feature
- Import CAD drawings (dwg, dxf,etc)
- Auto-ignition
- Electronic proportional valve gas control
- · Capacitive Torch height sensing (for oxy-fuel)
- Initial Height Sensing and Auto Height Control integrated with the System for Plasma
- Multiple cutting carriages (depending on width) oxy-fuel, plasma or a combination of both
- Fume extraction table with filters / water table for better environment
- Interface with marking systems (eg. Plasma Arc, Powder Marker etc)
- Compound skew bevel rotation units
- Ethernet card
- Interface with storage devices-floppy drive, USB storage devices
- Plateskewness correction
- Anti Collision protection.
- Remote diagnostics
- Triple torch combination
- Auto Bevel Cutting for Plasma & Oxyfuel.
- Combination of Plate and Pipe Profile Cutting System

#### **Integrated Torch Height Control**



In case of oxy-fuel torchese, height sensing is done continuously by a capacitive sensor. This ensures that even if the plate is warped, cutting takes place without hindrance.

In case of plasma cutting, Initial Height Sensing (IHS) and Auto Height Control is performed by a separate system which ensures perfect operation. This consists of a controller, Plasma interface, torch height interface, AC Servo Drive and AC Servo motor etc.

## Precision Racks, Pinions, Gearboxes and Drives



Positioning speed and accuracy of cutting depends on the selection of components. Panther series uses most meticulously picked components to achieve positioning Accuracy: +/- 0.2mm and repeatability: +/- 0.1mm constantly and consistently over years.

## **CNC** Controller



#### **Nesting Software**



Controllers are possibly the most critical part of the cutting equipment. We offer you a range of controllers. The controllers range from PC based systems to standalone controllers with embedded intelligence. These controllers also have built-in PLC's where customized programs can be downloaded.

Ease of operation: Based on Microsoft architecture, navigation is through Windows like user interface making it extremely easy to operate. Large display screen shows real time cutting graphics, and is available with touchscreen options.

Speed of execution: With built-in PLC's the speed of execution of commands is better than 10ms. This significantly impacts the speed of cutting. Choices available for various brands like: Siemens / Fanuc / Beckhoff, Hypertherm / Burny / Camsoft, etc.

A good nesting software helps the user in achieving following targets. Precision : Shapes are cut accurately i.e. within specified to lerances.

- Productivity: Processing time on the machine is minimum.
- · Cost Reduction: Wastage of raw materials and the overall cost of operation is minimum.
- Data Management: Data input is easy and output (report, estimate, code, etc.) is flexible.
- Zero Down Time: Absence of a CNC code file never forms a reason for machine's idle time.

Features include auto Validation, Simulation, Dimension / Enquiry functions, Lead-in Styles, Cutting Parameters, Corner Loops, Offcuts & Scrap Cuts, Grain Alignment, etc

#### **Powder Marker**



It is applicable to digital - control cutting machines of different series. It melts zinc powder inside storage tank with flame and sprays it onto the steel plate according to design, then along the zinc powder line cutting machine conducts cutting with digital control cutting torch. The width of the line is 0.5mm, which adjustable.

- The powder spraying device has 4 gas inlet channels among which 3 for oxygen, 1 for fuel gas. Two outermost channels, one is for preheat oxygen, the other is for fuel gas; the middle one is for cutting oxygen by which it is for powder spray.
- Firstly, screw off knurled nut, put Zinc powder into storage tank and screw on the nut.
- Secondly, Ignite powder spray device, adjust cutting oxygen, open the value of powder spray gas channel, then Zinc powder will be automatically sprayed onto the iron plate.

#### **Bevel Units**



- AC drives for high performance.
- Programmable arc current, arc voltage, and bevel angle.
- C-axis rotation of +/- 460° at a rate of 50 RPM, reduces cut cycle time.
- Quick torch focal point adjustment for easy consumable changeover.
- Lateral and vertical torch "decoupler" collsion detection to prevent torch damage in the event of a collision.
- Resultant piece part bevel angles of +45 degrees through -45 degrees.
- Response time from 0 to 45 degrees is less than 2 seconds.
- Unique compound skew technology allows unit to be located away from cutting area to minimize potential damage.

#### **Tables and Fume Extraction Units**



These units are specifically designed for welding and cutting fumes and come pre-assembled with a capacity up to 13,000 m3/h. PTFE filters filter particles down to  $0.1\mu$ m. Welding and cutting fumes can have more than 50% of the fume particle size below  $0.4\mu$ m which are also invisible to the eye. They have self cleaning filters and an easily emptied bin with wheels. The low noise level of the filter units (low as 65 dB) allows them to be located indoors next to the cutting system. Cutting Tables: These tables have lift out dross bins for easy

cleaning. They also have automatic opening & closing segmented fume sections to reduce the size of the extraction unit.

# **Cutting carriages for Panther series and cutting charts**

#### Plasma

The Panther gantry series can be interfaced with a wide variety of Plasma sources including our own KALI (both converterized and inverterized), Kjellberg or Hypertherm. The following chart shows an example of speed vs thickness at a given current.

#### **Oxy-fuel**

The Panther gantry series can be interfaced with a number of oxy-fuel torches. The system provides full automation of the oxy-fuel cutting process using flame monitoring technology and electronic proportional valve gas controls, making oxy-fuel cutting easy to setup and easy to use. Machines with manual gas settings and controls are available for economical reasons.

# **H** Bluetooth Enabled (OPTIONAL)



Panther series of gantries are Bluetooth ready. With such devices, it is possible to connect several CNC's in the plant to a central computer. It is even possible to exchange data between 2 or more CNC's. This state of the art technology reduces cabling costs substantially and can be effectively used for data transfers.

# **Cutting Chart**

Material:1.0037 St-37 - mild steel - (10 up to 30mm) Plasma gas O <sub>2</sub> with swirl gas N <sub>2</sub>											
Thickness (mm)	Cutting Current (A)	Cutting gas (O <sub>2</sub> ) pressure (bar)	Swirl gas (N <sub>2</sub> ) pressure (bar)	Cutting Height (mm)	Pierce height (mm)	Pierce time (s)	Cutting Speed (Quality cut) (mm/mm)	Kef (Quality) (mm)			
10.0	130.0	10.0	5.0	5.0	0.4	2.0	2600.0	2.0			
12.0	130.0	10.0	5.0	5.0	0.4	2.0	2200.0	2.0			
15.0	130.0	10.0	5.0	6.0	0.4	2.0	1800.0	2.4			
18.0	130.0	10.0	5.0	8.0	0.5	2.5	1200.0	2.6			
20.0	130.0	10.0	5.0	10.0	0.6	2.5	1000.0	2.8			
25.0	130.0	10.0	5.0	12.0	0.8	3.0	700.0	3.0			
30.0	130.0	10.0	5.0	15.0	1.0	3.5	500.0	3.2			
Material: Aluminium - (6 up to 25mm)											
Plasma gas Ar-H <sub>2</sub> with swirl gas N <sub>2</sub>											
Thickness (mm)	Cutting Current (A)	Cutting gas (Ar-H <sub>2</sub> ) pressure (bar)	Swirl gas (N <sub>2</sub> ) pressure (bar)	Cutting Height (mm)	Pierce height (mm)	Pierce time (s)	Cutting Speed (Quality cut) (mm/mm)	Kef (Quality) (mm)			
6.0	130.0	7.0	6.0	4.0	0.1	2.5	3200.0	2.7			
8.0	130.0	7.0	6.0	5.0	0.2	2.5	2200.0	2.9			
10.0	130.0	7.0	6.0	6.0	0.3	2.5	1600.0	3.0			
12.0	130.0	7.0	6.0	8.0	0.3	25	1400.0	3.1			
16.0						2.0					
	130.0	7.0	6.0	8.0	0.3	3.0	1000.0	3.3			
20.0	130.0 130.0	7.0 7.0	6.0 6.0	8.0 10.0	0.3 0.4	3.0 3.0	1000.0 800.0	3.3 3.5			
20.0 25.0	130.0 130.0 130.0	7.0 7.0 7.0	6.0 6.0 6.0	8.0 10.0 12.0	0.3 0.4 0.5	3.0 3.0 3.5	1000.0 800.0 600.0	3.3 3.5 3.8			
20.0 25.0 Mate	130.0 130.0 130.0 erial : 3	7.0 7.0 7.0 <b>Stalnles</b>	6.0 6.0 6.0	8.0 10.0 12.0 - (6 up	0.3 0.4 0.5 <b>to 25</b>	3.0 3.0 3.5 <i>mm</i> )	1000.0 800.0 600.0	3.3 3.5 3.8			
20.0 25.0 Mate	130.0 130.0 130.0 erial : 5	7.0 7.0 7.0 Stainles is Ar-H	6.0 6.0 s steel with s	8.0 10.0 12.0 - (6 up wirl gas	0.3 0.4 0.5 to 25	3.0 3.0 3.5 <b>mm)</b>	1000.0 800.0 600.0	3.3 3.5 3.8			
20.0 25.0 Mate Plas	130.0 130.0 130.0 ima ga	Cutting gas (Ar-H <sub>2</sub> ) 0.2 pressure (bar) 0.2 pressure (bar)	Swirl gas (N <sub>2</sub> ) pressure (bar)	0.8 0.01 0.01 0.21 0.21 0.21 0.21 0.21 0.21	0.3 0.4 0.5 <b>to 25</b> <b>N</b> 2	Pierce time (s)	Cutting Speed (Quality cut) (mm/mm)	Kef (Quality) (mm)			
20.0 25.0 Mate Plas (mm) seauting 0.0	130.0 130.0 130.0 130.0 130.0 ma ga ma ga Untrent (V) 130.0	Cutting gas (Ar-H 2) 0.2 pressure (bar) 0.2 0.2 0.2 0.2	Swirl gas (N <sub>2</sub> ) pressure (bar) 09 09 09	0.8 0.01 0.01 0.02 0.9 0.9 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8 0.8	0.3 0.4 0.5 <b>to 25</b> <b>X</b> 2 N 2 0.2	3.0 3.0 3.5 mm)	0.0000 Cutting Speed (Quality cut) (mm/mm) 0.0005 0.0005	C Kef (Quality) (mm)			
20.0 25.0 Mate Plas (mm) seaution 6.0 8.0	130.0 130.0 130.0 130.0 130.0 (V) tuano 6 (V) tuano 130.0 130.0	Cutting gas (Ar-H <sup>2</sup> ) 0.7 0.7 0.7 0.7 0.7	6.0 8.00 8.00 9.000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.0000 9.00000 9.0000 9.00000 9.00000 9.00000 9.00000 9.00000 9.000000 9.0000000000	0.8 0.0 0.2 0.2 0.8 0.8 0.8 0.8 0.8 0.8	0.3 0.4 0.5 <b>to 25</b> <b>N</b> 2 <b>N</b> 2 N	3.0 3.0 3.5 mm) (s) Jierce time (s) 3.0 3.5 (s)	0.000 0.008 0.008 0.009 (mm/mm) 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.0000 0.0000 0.0000 0.0000 0.00000 0.000000	No No<			
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20.0 25.0 Mate Plas (um) seeuxpickuess 6.0 8.0 10.0 12.0 16.0	130.0 130.0 <b>arial :</b> <b>ma ga</b> (V) tuestino 130.0 130.0 130.0 130.0 130.0	0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7 0.7	0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6	0.8 0.2 0.2 0.2 0.2 0.8 0.8 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0.3 0.4 0.5 <b>to 25</b> <b>N</b> 2 (mm) the second se	3.0 3.5 mm) (s) bierce time (s) 3.0 3.0 3.0 3.0 3.0 3.5	0.0001 0.008 0.008 0.003 0.0032 0.0032 0.0032 0.0022 0.0022 0.0022 0.0021 0.0021 0.0021	3.3 3.5 3.8 3.8 2.2 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5			
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12.0 Thickness (mm)

10.0

16.0

20.0

25.0

# **Ordering Information**

Specifications													
Panther Series	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000	
Working Width (single torch)	mm	2000	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500
Rail gauge	mm	2500	3000	3500	4000	4500	5000	5500	6000	6500	7000	7500	8000
Machine height mm		1600											
Maximum torch carriages pcs		8											
Speed range	m/min	0.5 to 10											
Power requirement		230V, 50/60Hz, 30A Single phase											

0.0

6.0

8.0

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Technical specification are subjected to charge because of continuous upgradation of products for better performance.