

General Information

Machine Type Titan

Nominal Travel 44 Ft.

	<u>Type</u>	<u>Qty</u>	<u>Process Description</u>
Processes	Plasma	2	HPR400
	Camera	Yes	

Modem Type none

Network Configuration CNC to single PC

Network Interface CAT5e Ethernet

Table Type Slagger - single blade

Table Furnished by MG

Spark Trap Furnished by MG

Dust Collector Furnished by MG

Dust Collector Size DFT4-32

Dust Collector Fan HP 20 HP

Station Outlets (gas supply stations) by MG

Power Requirements

Titan Machine	480v +/- 10% , 1Ph , 60hz
	Full Load Amps 10.4 amps
	DisconnectSize: 30A, 600V, 1ph
	DisconnectModel: Sq.D H361AWK & PK3GTA-1
	FuseSize: FRS-15
	WireSizeSupply: #10 AWG Black (Supplied by MG)
	WireSizeGround: #10 AWG Grn/Yel (Supplied by MG)
HPR400 Plasma	Machine Ground #2/0 AWG Welding Cable (supplied by MG)
	480v +/- 10% , 3PH , 60hz
	Full Load Amps 110 amps
	DisconnectSize: 200A, 600V, 3PH
	DisconnectModel: SQD H364NAWK
	FuseSize: FRS150
	WireSizeSupply: #1/0 AWG Blk
20 HP Exhaust Fan	WireSizeGround: #6 AWG Grn/Yel
	460v +/- 10% , 3Ph , 60hz
	Full Load Amps 27 amps
	DisconnectSize: 60A, 600V, 3ph
	DisconnectModel: Sq.D H362AWK
	FuseSize: FRS-R45
	WireSizeSupply: #8 AWG Black
Slagger - Single Blade Slagger Table	WireSizeGround: #10 AWG Grn/Yel
	480v +/- 10% , 3Ph , 50/60h
	Full Load Amps 2.61amps
	DisconnectSize: 30A, 600V, 3ph
	DisconnectModel: Sq.D H361AWK & PK3GTA-1
	FuseSize: FRS-4
	WireSizeSupply: #14 AWG
	WireSizeGround: #14 AWG

1. Refer to Electrical Hook Up Drawings in Appendix of Installation Manual for schematic and possible additional requirements such as special transformers.
2. All items above need a separate fused disconnect. If multiple plasma systems are present, supply a separate disconnect for each plasma system. Refer to page 1 for quantity.
3. In pursuant to installations in which local regulations preclude the use of fused disconnects and in accordance with Hypertherm's published electrical requirements, the following guidelines are to be observed when installing overcurrent protection in opposition to Messer's above recommendations. Overcurrent devices must be capable of withstanding thirty times the full load amps for 0.01 seconds and twelve times the full load amps for 0.1 seconds thereafter.

Plasma Gas Requirements for HPR400

Selected Gases

Air (High Quality)

Argon

F5

H35

Nitrogen

Oxygen

Gas Specifications

<u>Gas</u>	<u>Max PSI</u>	<u>Regulated PSI</u>	<u>SCFH/Torch</u>	<u>Purity</u>	<u>Comments</u>
Air (High Quality)	150	110 psi - 125 psi	400	99.999%	See "3 stage filter" note below
Nitrogen	150	110 psi - 125 psi	410	99.99%	Required gas
H35	150	110 psi - 125 psi	150	99.995%	
Oxygen	150	110 psi - 125 psi	150	99.5%	Required gas
F5	150	110 psi - 125 psi	150	99.98%	
Argon	150	110 psi - 125 psi	150	99.99%	

Notes:

- 1 Total volume requirements are found by multiplying the flow per torch (above) by the number of torches on the machine.
- 2 The gases shown may not all be required for your application. Review the plasma manufacturer's manual to see what gas is required for the type of cutting you plan to do or contact the Messer Application Department for assistance.
- 3 All gases must be regulated onto the machine. Regulated pressures (shown above) are at the plasma gas console inlet. In order to insure proper regulation, the supply pressure to the regulator should be at least 10 psi greater than the regulated pressure requirement while the gases are flowing.
- 4 Refer to section 101 in the Installation manual for plant piping guidelines.
- 5 This torch requires cooling. Consult the plasma manufacturer for coolant requirements. Failure to use the proper coolant will result in premature consumable failure or (in the case of freezing) a cracked torch or bursted hoses.
- 6 A minimum of a 3 stage filtering process is required for compressed air to insure it is clean, dry, and oil free.

First Stage: Removes at least 99% of particulates and liquids 5 micron size or larger.

Second Stage: This is a coalescing type filter to remove 99.99% all particles .025 micron in size or larger.

Third Stage: This is an active carbon absorbent filter to remove 99.999% of oil and hydrocarbons.

In order to be effective, incoming air to these Messer supplied filters must already be clean, dry and oil free according to the following:

Maximum particle size	15 microns
Maximum concentration	8 mg/M3
Maximum pressure dew point	+3 C / 940 ppm @ 7 bar
Maximum oil content	5 mg/M3

- 10 Optimum regulation pressure setting for "auto gas" systems is 120 psi. Optimum regulation pressure setting for "manual gas" systems is 115 psi.

Machine and Equipment Air Required

Rack Air Blast	15 SCFM	@	60 PSI	5 scfm flow @ 1/4 turn open - G. Behrent
Drive Cabinet Cooler	8 SCFM	@	80 PSI	standard on Titan
DustCollector 16 to 32 cartridges	12 SCFM	@	90 PSI	

Notes: 1. In order to be effective, incoming air to the Messer supplied air drop must already be clean, dry and oil free according to the following:

Maximum particle size	15 microns
Maximum concentration	8 mg/M3
Maximum pressure dew point	+3 C / 940 ppm @ 7 bar
Maximum oil content	5 mg/M3

2. The total SCFM is determined by adding up all the air requirements shown.
Delivery pressure is to be 90 psi minimum or highest required pressure.