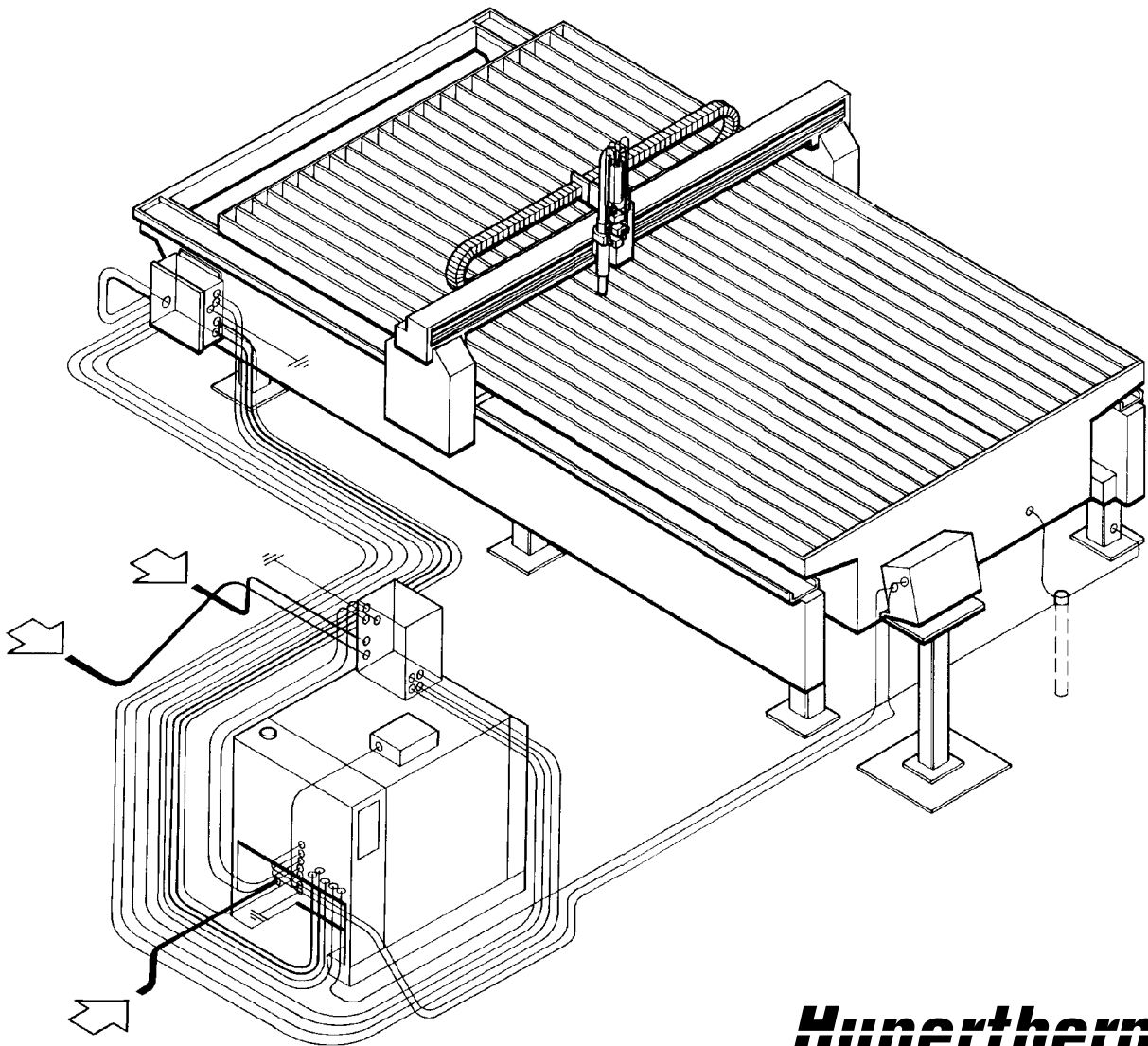


# **HD1070<sup>®</sup>**

## **Plasma Arc Cutting System**

**Product Configuration Manual**  
**801890 – Revision 1**



**Hypertherm<sup>®</sup>**  
*The world leader in  
plasma cutting technology*

# ***HD1070***

## **Product Configuration Manual**

**PCM-189**

**Revision 1 – February, 1995**

**Hypertherm, Inc.  
Hanover, NH USA  
[www.hypertherm.com](http://www.hypertherm.com)**

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55 21 2578 0947 Fax

### SPECIFICATIONS

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## System Requirements

### Gas Requirements:

Plasma Gas Types .....	Oxygen (O <sub>2</sub> ), Air
Shield Gas Type .....	Oxygen (O <sub>2</sub> ) and Nitrogen (N <sub>2</sub> ) mixture, Methane (CH <sub>4</sub> ) and Air mixture, Methane
Gas Quality .....	Oxygen and Nitrogen – 99.995 pure (liquid gas recommended) Air – Clean, dry and oil-free Methane – 93% pure (commercial grade)
All Gas and Air Inlet Pressure .....	120 psi (8.3 bar)
Oxygen and Air Flow rate .....	77.7 scfh (2200 l/hr) at full-scale
Nitrogen Flow rate .....	83.1 scfh (2353 l/hr) at full-scale
Methane Flow rate .....	108 scfh (3058 l/hr) at full-scale

### Torch Coolant Requirements (torch coolant requirements are provided by power supply.)

Coolant Tank Capacity.....	2.9 gallons (11 liters)
Coolant .....	Ethylene Glycol/Deionized Water
Flow Rate .....	1.4 gpm (5.3 l/m)
Pressure .....	150 psi (10.2 bar)

## ① HD1070 Power Supply

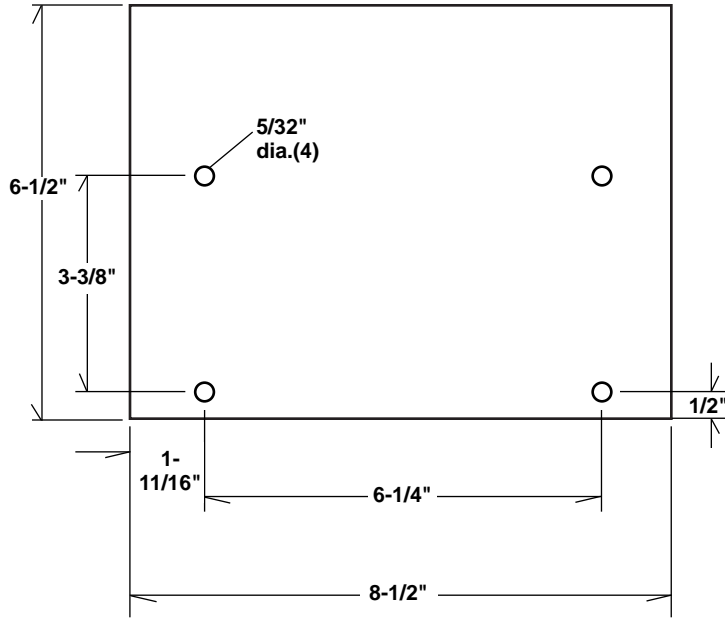
### Dimensions and Weight

Width .....	24-1/4" (616 mm)
Height .....	36" (914 mm)
Depth .....	38-1/4" (972 mm)
Weight .....	545 pounds (247 kg)

① **Timer-Counter**

**Dimensions and Weight**

Width .....6-1/2" (165 mm)  
 Height .....2-1/2" (64 mm)  
 Depth .....8-1/2" (216 mm)  
 Weight .....3 pounds (1.4 kg)



**Figure 1-1 Mounting Dimensions – Timer-Counter**

② **Timer-Counter Cable**

**Cable**  
 Timer-Counter

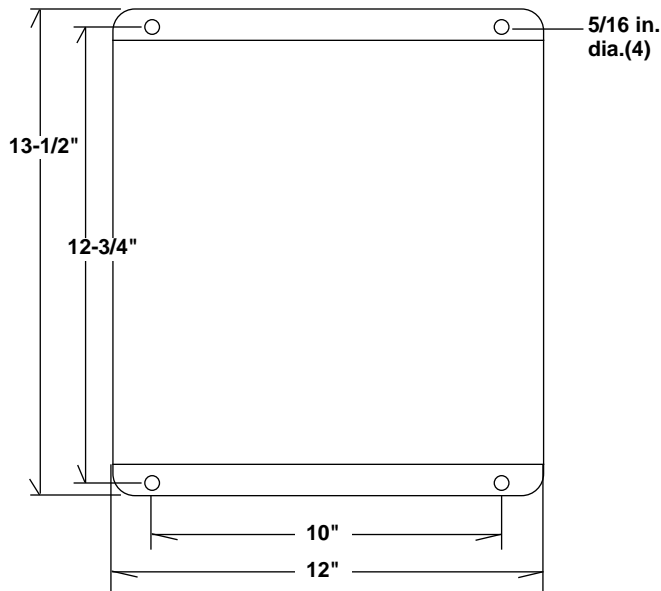
**Cable Diameter (O.D.)**  
 5/16" (8 mm)

**Connector/Lug Diameter**  
 1-1/4" (32 mm)

③ **RHF Console**

**Dimensions and Weight:**

Width .....12-5/8 " w/hardware (321 mm)  
 Height .....13-1/2" (343 mm)  
 Depth .....6-1/2" (165 mm)  
 Weight .....20 pounds (9 kg)



**Figure 1-2 Mounting Dimensions – RHF Console**

④ **Leads Between Power Supply and RHF Console**

<b>Lead</b>	<b>Lead Diameter (O.D.)</b>	<b>Connector/Lug Diameter</b>
Pilot Arc Cable	1/4" (6 mm)	none
Negative Lead Cable	3/8" (9.5 mm)	none
Cooling Supply Hose	5/8" (16 mm)	5/8" (16 mm)
Cooling Return Hose	5/8" (16 mm)	5/8" (16 mm)
Control Cable	1/4" (6 mm)	1" (24.5 mm)

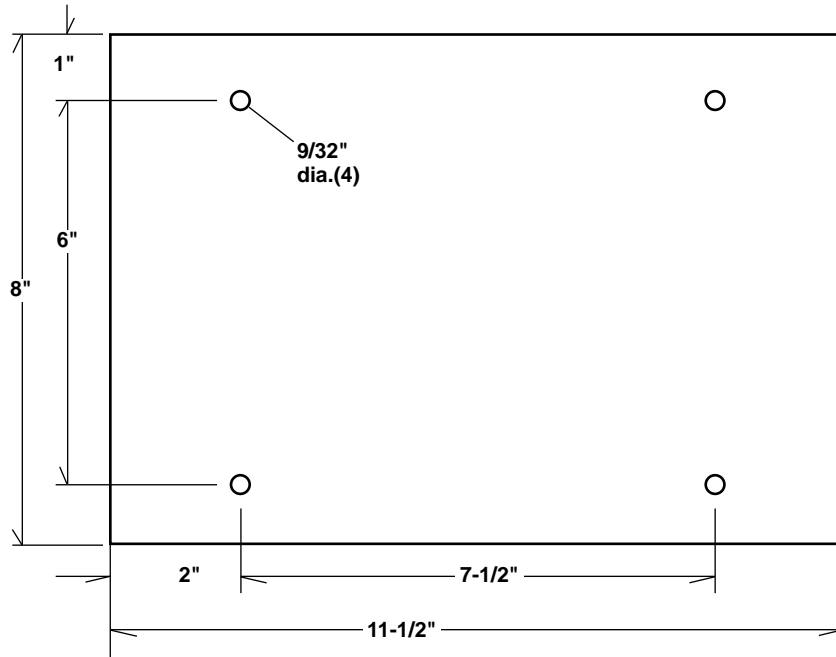
⑤ **Work Cable Between Power Supply and Work Table**

Cable	Cable Diameter (O.D.)	Connector/Lug Diameter
Work Cable	3/8" (9.5 mm)	3/8" (9.5 mm)

⑥ **Gas Console**

**Dimensions and Weight**

Width .....	14" w/hardware (356 mm)
Height .....	14-1/2" (368 mm)
Depth .....	9-3/4" w/hardware (248 mm)
Weight .....	27 pounds (12 kg)



**Figure 1-3 Mounting Dimensions – Gas Console**

⑦ **Leads Between Power Supply and Gas Console**

Lead	Lead Diameter (O.D.)	Connector/Lug Diameter
Gas Console/PS Cable	3/8" (9.5 mm)	1-3/4" (44 mm)
Gas Console/PS Cable	1/2" (12 mm)	1-3/4" (44 mm)



## SPECIFICATIONS

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### ⑧ PAC182 Torch

**Dimensions and Weight:**

Length (w/sleeve) .....14.5" (368 mm)  
Diameter (at sleeve) .....2" (51 mm)  
Diameter (at torch body).....1-3/4" (44 mm)  
Weight .....4 pounds (2 kg) w/sleeve & off/vent valve assy

### ⑨ Shielded Leads Between RHF Console and Torch

<b>Lead</b>	<b>Lead Package Diameter (O.D.)</b>
Shielded Leads – RHF Cons/Trch	1-1/2" (38 mm)

### ⑩ Leads Between Gas Console and Torch

<b>Lead</b>	<b>Lead Package Diameter (O.D.)</b>
Lead Set – Gas Cons/Trch	1" (25 mm)

### ⑪ Control Cable Between Power Supply and Cutting Machine Interface

<b>Cable</b>	<b>Cable Diameter (O.D.)</b>	<b>Connector/Lug Diameter</b>
Control Cable – PS/Cutting Mach.	12" (12 mm)	1-3/4" (44 mm)

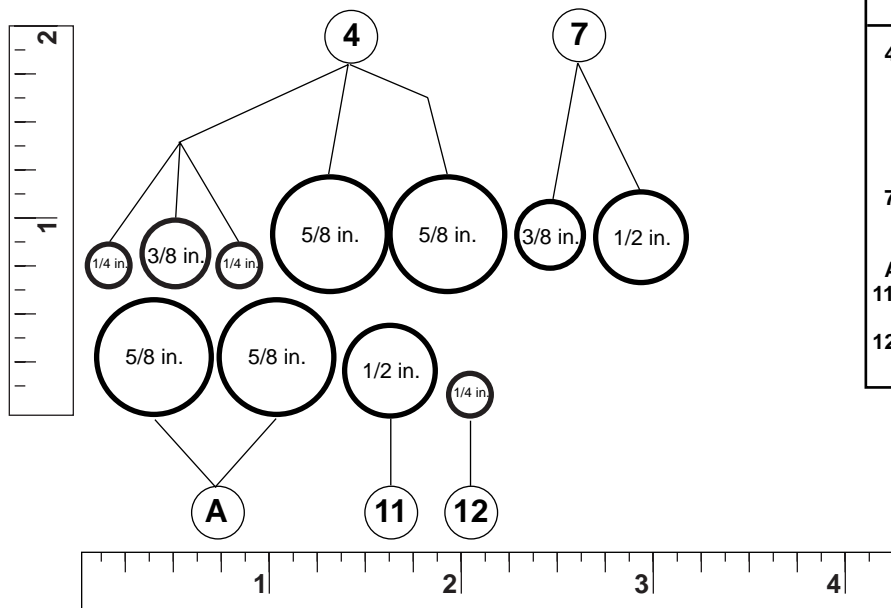
### ⑫ Current Setpoint Cable Between Power Supply and Cutting Machine Interface

<b>Cable</b>	<b>Cable Diameter (O.D.)</b>	<b>Connector/Lug Diameter</b>
Curr. Stpt. Cable – PS/Cutting Mach.	1/4" (6 mm)	1-3/4" (44 mm)

**Quick Reference to Cable/Hose Dimensions**

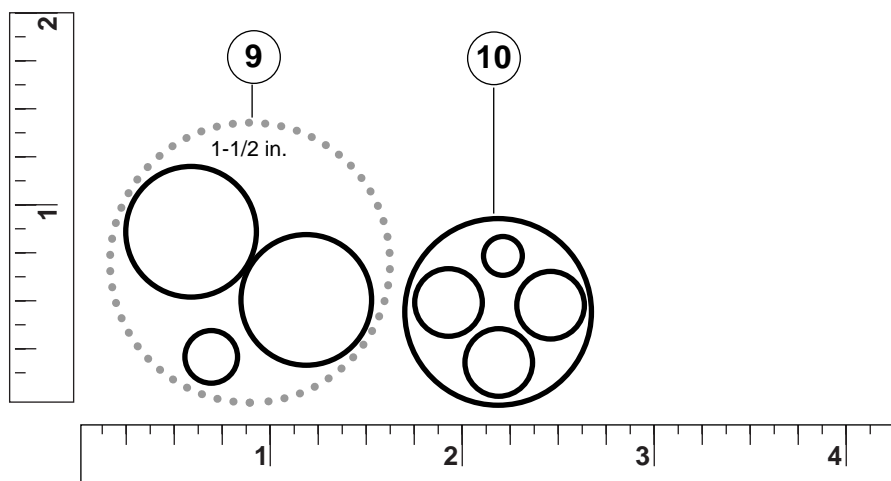
**HD1070 System – (Ref. Fig. 2-8)**

The following figures are a one-to-one representation of the HD1070 system interconnecting cables and hoses. Figure 1-4 shows cables and hoses that would lay in the rail at the site. Figure 1-5 shows cables and hoses that would lay in the cutting machine's cable/hose carrier. The rulers have been added to use as a guide. Arrangement of cables and hoses laying in rails or carriers are roughly suggested here.



Key – Figure 1-4	
<b>4</b>	Leads – Power Supply to RHF Console
1/4 in.	Pilot Arc Lead
3/8 in.	Negative Lead
1/4 in.	Control Cable
5/8 in.	Coolant Supply Hose
5/8 in.	Coolant Return Hose
<b>7</b>	Leads – Power Supply to Gas Console
3/8 in.	Cable – 3X2 Control
1/2 in.	Cable – 3X1 Control
<b>A</b>	Hoses – Gas Supply to Gas Console
<b>11</b>	Cable, Control – Power Supply to Machine Interface
<b>12</b>	Cable, Curr. Setpoint – Power Supply to Machine Interface

**Figure 1-4 Cables / Hoses in Rail**



Key – Figure 1-5	
<b>9</b>	Shielded Torch Leads – RHF Console to Torch
<b>10</b>	Torch Leads – Gas Console to Torch

**Figure 1-5 Cables / Hoses in Machine Cable/Hose Carrier**



### ORDERING PROCEDURE

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### Introduction

Hypertherm's HyDefinition™ plasma cutting system (HD1070) is a precision cutting dual gas machine-torch system. The microprocessor-controlled system helps to provide extended life for the torch consumables parts. To achieve consumable long life, **all cuts must begin and end on the plate surface**; this allows for the proper ramping of gases and DC current to extend the life of the nozzle and electrode. The HD1070 system consists of a power supply, remote high frequency (RHF) console, gas console, and torch.

The HD1070 system can be configured for oxygen or air cutting. The power supply provides a selectable current output from 15 to 70 amps for optimum performance on cutting most metals from gauge to 3/8-inch (9.5 mm) thick. This allows the operator wide variations in cutting speeds on the same thickness of metal.

Air is used as the plasma gas for cutting stainless steel at 30, 50 and 70 amps, and aluminum at 70 amps. Oxygen is used as the plasma gas for cutting mild steel at 15, 30 and 70 amps.

An oxygen-nitrogen mixture is used as the shield gas for cutting mild steel at 15, 30 and 70 amps. A methane-air mixture is used as the shield gas for cutting stainless steel at 70 amps. Methane is used as the shield gas for cutting aluminum at 70 amps, and air is used as the shield gas for cutting stainless steel at 50 amps.

### Cutting Machines

In order to produce the highest-quality cut possible, it is extremely critical that the torch drive system has very accurate vibration-free control of the X, Y, and Z axes. Placing a precision-cutting plasma system on a cutting machine with poor positioning or poor contouring tolerance, or with inadequate acceleration and deceleration characteristics will clearly show the effects on the cut face. The **Z-axis** of the cutting machine must be controlled to **+/- .005"**. Initial height sensing (IHS) for plate piercing must also be accurate and repeatable to ensure long consumable life.

Hypertherm recommends HD1070 units be installed on new, high-precision X-Y machines built by MG Industries, Advanced Kiffer Systems, Lockformer, Advanced Machinery and Koike Aronson. For robotic and hard tooling applications, any system that is laser compatible will generally perform well with the HD1070 system.

## **Multi-Torch Systems**

If more than one torch is required, increase the quantity of each component by the number of torches to be used.

To specify the correct components for each application, follow the guidelines in this section.

### Layout of Cutting Machine and HD1070 System

When configuring a HD1070 system(s), it is important to know where each major component will be placed. This will vary with the cutting machine manufacturer and with the particular installation. After the location of the major components has been determined, the interconnecting leads and cable lengths can be specified.

It is critical to follow the path that the interconnecting leads will follow and allow for some slack when specifying their lengths. **Do not try to get by with the next shorter length!**

Pictured below is a diagram showing an overhead view of a typical precision cutting machine. Installations vary, so use this figure as a guide.

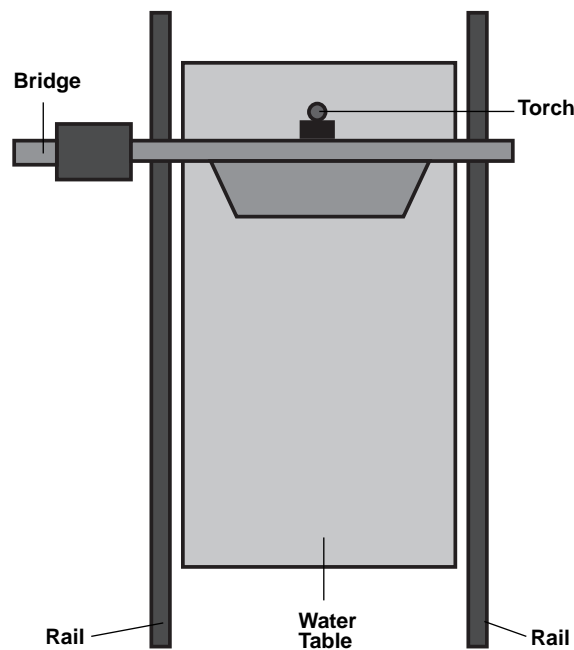


Figure 2-1 Gantry (Bridge) Layout\*

\* Cables are usually in a power track or festoon system. Cable, lead and hose lengths must allow for routing through the system.

## Ordering Information

The figure below represents an HD1070 plasma cutting system mounted on a precision cutting machine. Use this figure as a guide when configuring an HD1070 system. The system below is also represented in block diagram form on page 2-14.

Each numbered step is cross-referenced in four areas: in the sample gantry system diagram below; in block diagrams to clarify interfacing components; in the accompanying parts list; and in the specifications section to clarify size and weight of major components. (Block diagrams are offered to clarify connection points and do not necessarily reflect relative sizes or distances between components.)

Note: If the cutting system has a power track for cabling and hosing, be certain to see the **Specifications** section to check hose, cable and connector diameters.

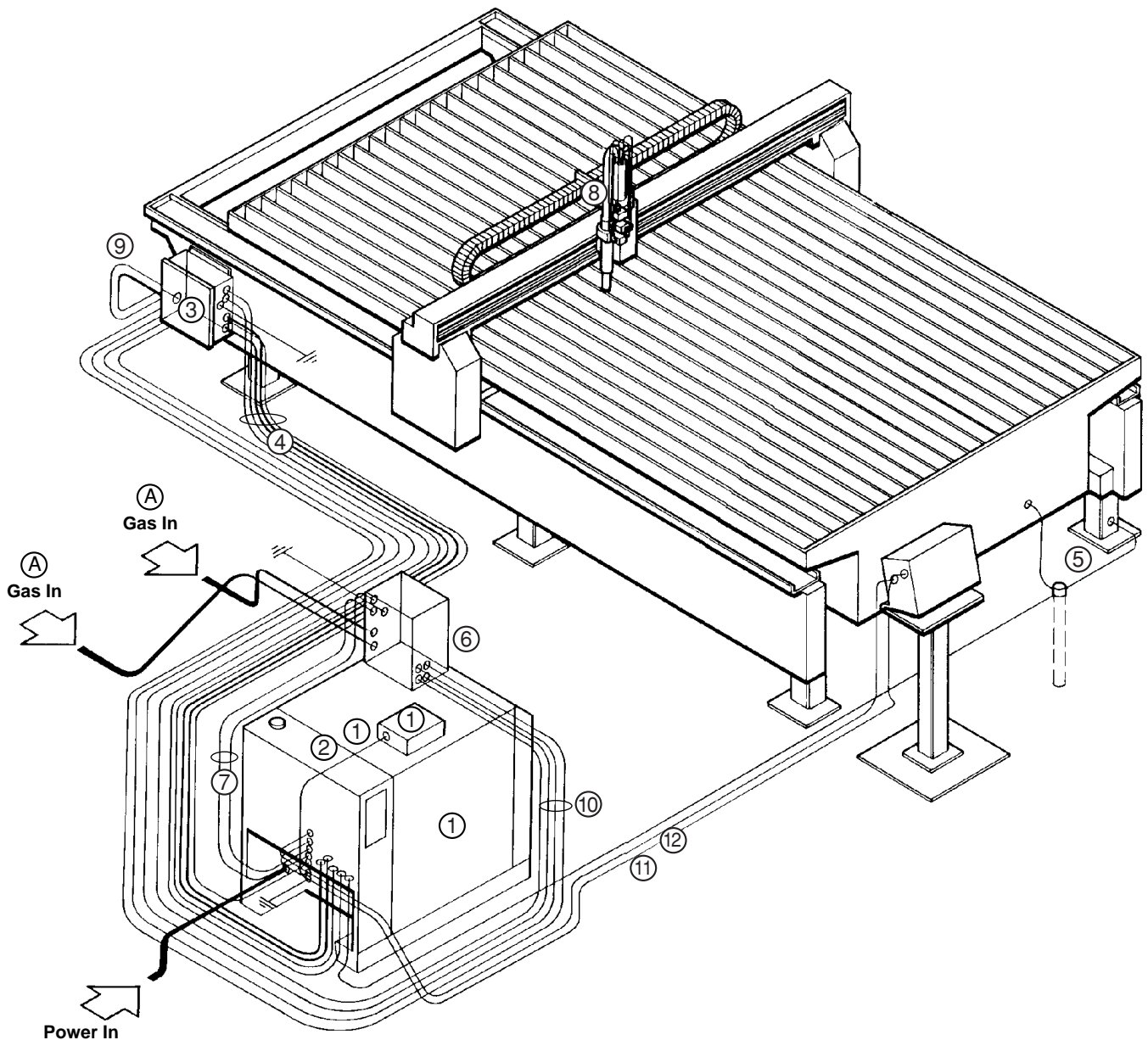


Figure 2-2 HD1070 System with a Precision Cutting Machine



### Ordering Procedure

#### ① Specify the Power Supply

The HD1070 power supply houses a 70-amp, 15kw chopper power supply which produces a constant current DC output variable from 15 to 70 amps. It contains a microprocessor control PC board which regulates all of the plasma system functions: start sequence, machine interface functions, gas and cut parameters, and off sequence. The power supply also houses the recirculator cooling system to cool the torch. The timer-counter unit and a 3-foot (1 m) timer-counter cable are included in the power supply package. The power supply interconnects with the timer-counter, RHF console, machine interface, gas console, and the workpiece.

- Determine the placement of the power supply (supplies) and input line voltage available at the site and order the appropriate power supply. See *Specifications* for details on power supply dimensions and weight.

#### ② Specify the Timer-Counter Cable

- If the timer-counter will be located farther than 3 feet (1 m) from the power supply, order different length cable.

#### ③ Specify the RHF Console

The RHF console houses the high-frequency starting circuit which is needed to initiate the torch. The high-frequency starting circuit permits more effective RF shielding and allows the power supply to be installed at a distance of up to 100 feet (30 m) from the power supply and 40 feet (12 m) from the torch. A door interlock switch and a cathode manifold are also located in the RHF console.

- Determine approximately where the console will be mounted on the cutting machine and note the distance from the power supply and the torch. Check the mounting holes and weight of the console in the *Specifications* section to determine where it can best be attached.



### ④ **Specify the Leads Between the Power Supply and the RHF Console**

The lead set from the power supply to the RHF console consists of five components: a pilot arc cable, a #4 negative lead cable, a cooling supply hose, a cooling return hose, and a control cable.

- Based on the distance (the path that the leads will have to run) between the power supply and the remote high-frequency console, order the appropriate lead package.

### ⑤ **Specify the Work Cable Between the Power Supply and the Work Table**

The work (positive) cable connects the positive side of the power supply circuit to the workpiece via the cutting (work) table. It should be kept as short as possible.

- Determine the necessary length for the work cable and order from the parts list on page 2-9.

### ⑥ **Specify the Gas Console**

The gas console houses the solenoid valves, three flowmeters, three pressure gauges, and a gas switch for plasma and shield gas flow control. The flowmeters (with metering valves) and pressure gauges provided are used to set and monitor the flowrates and pressures for HyDefinition™ cutting. The gas console should be mounted near the operator for easy monitoring. This unit interfaces with the power supply, gas supplies and the torch. The gas console must be located within 75 ft (23 m) of the power supply and within 40 ft (12.2 m) of the torch.

- Determine approximately where the console will be mounted in relation to the power supply, gas supplies and the torch and order the console.



### ⑦ **Specify the Leads Between the Power Supply and the Gas Console**

The lead set contains two control cables that interface the power supply to the gas console.

**Note that the hoses from the gas supply to the gas console are not provided by Hypertherm.**

- Based on the distance (the path the leads will take) between the gas console and the power supply, specify the appropriate part number.

### ⑧ **Specify the PAC182 Torch**

The torch for the HD1070 system is the PAC182. This torch comes with an off-valve sub-assembly and 15-amp consumables.

Hypertherm does not provide a torch mounting bracket for the PAC182. Precision cutting machines have their own mounting brackets that have proven to be adequate for the HD1070 PAC182 torch.

Hypertherm also does not supply an initial height sensing (IHS) system for the PAC180 torch. If an initial height sensing system is to be used, order the torch with an IHS tab on the shield cap.

- Before ordering the torch, determine if an IHS system is needed. Order the appropriate part number from page 2-11.

### ⑧a **Specify the Consumable Parts Kit**

There is one parts kit for all PAC182 consumables. This kit contains electrodes, nozzles and shields for 15-amp, 30-amp, 50-amp and 70-amp cutting.

- Order the consumable parts kit.



### ⑨ **Specify the Shielded Leads Between the RHF Console and the Torch**

The shielded leads package between the remote high-frequency console and the torch consists of two torch coolant leads and a pilot arc lead. This lead package is bound together by an external sheathing. If the leads are being placed in a power track, then measure the length from the torch through the power track to the console and allow an extra 3 to 5 feet of length. If a festoon system is used, measure the width of the bridge and double it for lead length.

- Based on the distance between the torch and the remote high-frequency console and the above considerations, specify the appropriate leads package.

### ⑩ **Specify the Leads Between the Gas Console and the Torch**

The leads package between the gas console and the torch consists of three hoses and a cable: a preflow gas hose, a shield gas hose, a plasma gas hose and a control cable.

- Based on the distance (the path the leads will take) between the gas console and the torch, specify the appropriate leads package.

### ⑪ **Specify the Control Cable Between the Power Supply and the Cutting Machine Interface**

- Based on the distance (the path the cable will take) between the power supply and the machine computer interface, order the appropriate cable.

### ⑫ **Specify the Current Setpoint Cable Between the Power Supply and the Cutting Machine Interface**

- Based on the distance (the path the cable will take) between the power supply and the machine computer interface, order the appropriate cable.

Distributor Information:

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**HYPERTHERM  
HD1070 Order Form**

Customer Information:

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① **HD1070 Power Supply w/Timer-Counter**

- 078004 HD1070 PS, 200V, 50/60 Hz, 3Ø
- 078003 HD1070 PS, 220/380/415V, 50/60 Hz, 3Ø
- 078002 HD1070 PS, 240/480V, 60 Hz, 3Ø
- 078006 HD1070 PS, 600V, 60 Hz, 3Ø

② **Timer-Counter Cable**

- 023570 Cable, Timer-Counter 3.5 Ft
- 023674 Cable, Timer-Counter 6 Ft
- 023705 Cable, Timer-Counter 25 Ft

③ **Remote High Frequency (RHF) Console**

- 078000 RHF Console, HD1070

④ **Leads Between Power Supply and RHF Console**

- 028561 Leads, PS/RHF Console, 15 Ft
- 028562 Leads, PS/RHF Console, 25 Ft
- 028563 Leads, PS/RHF Console, 50 Ft
- 028564 Leads, PS/RHF Console, 75 Ft
- 028565 Leads, PS/RHF Console, 100 Ft
- 028737 Leads, PS/RHF Console, 115 Ft
- 028749 Leads, PS/RHF Console, 125 Ft

⑤ **Work Cable Between Power Supply and Work Table**

- 023535 Cable, PS/Work Table, 15 Ft
- 023536 Cable, PS/Work Table, 25 Ft
- 023537 Cable, PS/Work Table, 50 Ft
- 023538 Cable, PS/Work Table, 75 Ft
- 023539 Cable, PS/Work Table, 100 Ft

⑥ **Gas Console**

- 078016 Gas Console II, HD1070

⑦ **Leads Between Power Supply and Gas Csl**

- 028566 Leads, PS/Gas Csl, 10 Ft
- 028567 Leads, PS/Gas Csl, 25 Ft
- 028568 Leads, PS/Gas Csl, 50 Ft
- 028569 Leads, PS/Gas Csl, 75 Ft
- 028748 Leads, PS/Gas Csl, 125 Ft

⑧ **PAC182 Torch w/Off-Valve Assy**

- 028845 PAC182 Torch Assy without IHS Tab
- 028846 PAC182 Torch Assy with IHS Tab

⑧a **Consumable Parts Kit**

- 028549 PAC182 Consumable Parts Kit

⑨ **Shielded Leads Between RHF Console and Torch**

- 028498 Leads, RHF Csl/Torch, 15 Ft
- 028499 Leads, RHF Csl/Torch, 20 Ft
- 028500 Leads, RHF Csl/Torch, 25 Ft
- 028501 Leads, RHF Csl/Torch, 30 Ft
- 028502 Leads, RHF Csl/Torch, 35 Ft
- 028503 Leads, RHF Csl/Torch, 40 Ft

⑩ **Leads Between Gas Console and Torch**

- 028538 Leads, Gas Csl/Torch, 15 Ft
- 028539 Leads, Gas Csl/Torch, 20 Ft
- 028540 Leads, Gas Csl/Torch, 25 Ft
- 028541 Leads, Gas Csl/Torch, 30 Ft
- 028542 Leads, Gas Csl/Torch, 35 Ft
- 028543 Leads, Gas Csl/Torch, 40 Ft

⑪ **Control Cable Between Power Supply and Cutting Machine Interface**

- 023487 Cable, Control, PS/Mach. Int., 25 Ft
- 023553 Cable, Control, PS/Mach. Int., 50 Ft
- 023554 Cable, Control, PS/Mach. Int., 75 Ft
- 023555 Cable, Control, PS/Mach. Int., 100 Ft

⑫ **Current Setpoint Cable Between Power Supply and Cutting Machine Interface**

- 023488 Cable, Curr. Setpt, PS/Mach. Int., 25 Ft
- 023566 Cable, Curr. Setpt, PS/Mach. Int., 50 Ft
- 023567 Cable, Curr. Setpt, PS/Mach. Int., 75 Ft
- 023568 Cable, Curr. Setpt, PS/Mach. Int., 100 Ft



Distributor Information:

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**HYPERTHERM  
HD1070 Order Form**

Customer Information:

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- 028562 Leads, PS/RHF Console, 25 Ft
- 028563 Leads, PS/RHF Console, 50 Ft
- 028564 Leads, PS/RHF Console, 75 Ft
- 028565 Leads, PS/RHF Console, 100 Ft
- 028737 Leads, PS/RHF Console, 115 Ft
- 028749 Leads, PS/RHF Console, 125 Ft

⑤ **Work Cable Between Power Supply and Work Table**

- 023535 Cable, PS/Work Table, 15 Ft
- 023536 Cable, PS/Work Table, 25 Ft
- 023537 Cable, PS/Work Table, 50 Ft
- 023538 Cable, PS/Work Table, 75 Ft
- 023539 Cable, PS/Work Table, 100 Ft

⑥ **Gas Console**

- 078016 Gas Console II, HD1070

⑦ **Leads Between Power Supply and Gas Csl**

- 028566 Leads, PS/Gas Csl, 10 Ft
- 028567 Leads, PS/Gas Csl, 25 Ft
- 028568 Leads, PS/Gas Csl, 50 Ft
- 028569 Leads, PS/Gas Csl, 75 Ft
- 028748 Leads, PS/Gas Csl, 125 Ft

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- 028845 PAC182 Torch Assy without IHS Tab
- 028846 PAC182 Torch Assy with IHS Tab

⑧a **Consumable Parts Kit**

- 028549 PAC182 Consumable Parts Kit

⑨ **Shielded Leads Between RHF Console and Torch**

- 028498 Leads, RHF Csl/Torch, 15 Ft
- 028499 Leads, RHF Csl/Torch, 20 Ft
- 028500 Leads, RHF Csl/Torch, 25 Ft
- 028501 Leads, RHF Csl/Torch, 30 Ft
- 028502 Leads, RHF Csl/Torch, 35 Ft
- 028503 Leads, RHF Csl/Torch, 40 Ft

⑩ **Leads Between Gas Console and Torch**

- 028538 Leads, Gas Csl/Torch, 15 Ft
- 028539 Leads, Gas Csl/Torch, 20 Ft
- 028540 Leads, Gas Csl/Torch, 25 Ft
- 028541 Leads, Gas Csl/Torch, 30 Ft
- 028542 Leads, Gas Csl/Torch, 35 Ft
- 028543 Leads, Gas Csl/Torch, 40 Ft

⑪ **Control Cable Between Power Supply and Cutting Machine Interface**

- 023487 Cable, Control, PS/Mach. Int., 25 Ft
- 023553 Cable, Control, PS/Mach. Int., 50 Ft
- 023554 Cable, Control, PS/Mach. Int., 75 Ft
- 023555 Cable, Control, PS/Mach. Int., 100 Ft

⑫ **Current Setpoint Cable Between Power Supply and Cutting Machine Interface**

- 023488 Cable, Curr. Setpt, PS/Mach. Int., 25 Ft
- 023566 Cable, Curr. Setpt, PS/Mach. Int., 50 Ft
- 023567 Cable, Curr. Setpt, PS/Mach. Int., 75 Ft
- 023568 Cable, Curr. Setpt, PS/Mach. Int., 100 Ft

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HD1070 Order Form**

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① **HD1070 Power Supply w/Timer-Counter**

- 078004 HD1070 PS, 200V, 50/60 Hz, 3Ø
- 078003 HD1070 PS, 220/380/415V, 50/60 Hz, 3Ø
- 078002 HD1070 PS, 240/480V, 60 Hz, 3Ø
- 078006 HD1070 PS, 600V, 60 Hz, 3Ø

② **Timer-Counter Cable**

- 023570 Cable, Timer-Counter 3.5 Ft
- 023674 Cable, Timer-Counter 6 Ft
- 023705 Cable, Timer-Counter 25 Ft

③ **Remote High Frequency (RHF) Console**

- 078000 RHF Console, HD1070

④ **Leads Between Power Supply and RHF Console**

- 028561 Leads, PS/RHF Console, 15 Ft
- 028562 Leads, PS/RHF Console, 25 Ft
- 028563 Leads, PS/RHF Console, 50 Ft
- 028564 Leads, PS/RHF Console, 75 Ft
- 028565 Leads, PS/RHF Console, 100 Ft
- 028737 Leads, PS/RHF Console, 115 Ft
- 028749 Leads, PS/RHF Console, 125 Ft

⑤ **Work Cable Between Power Supply and Work Table**

- 023535 Cable, PS/Work Table, 15 Ft
- 023536 Cable, PS/Work Table, 25 Ft
- 023537 Cable, PS/Work Table, 50 Ft
- 023538 Cable, PS/Work Table, 75 Ft
- 023539 Cable, PS/Work Table, 100 Ft

⑥ **Gas Console**

- 078016 Gas Console II, HD1070

⑦ **Leads Between Power Supply and Gas Csl**

- 028566 Leads, PS/Gas Csl, 10 Ft
- 028567 Leads, PS/Gas Csl, 25 Ft
- 028568 Leads, PS/Gas Csl, 50 Ft
- 028569 Leads, PS/Gas Csl, 75 Ft
- 028748 Leads, PS/Gas Csl, 125 Ft

⑧ **PAC182 Torch w/Off-Valve Assy**

- 028845 PAC182 Torch Assy without IHS Tab
- 028846 PAC182 Torch Assy with IHS Tab

⑧a **Consumable Parts Kit**

- 028549 PAC182 Consumable Parts Kit

⑨ **Shielded Leads Between RHF Console and Torch**

- 028498 Leads, RHF Csl/Torch, 15 Ft
- 028499 Leads, RHF Csl/Torch, 20 Ft
- 028500 Leads, RHF Csl/Torch, 25 Ft
- 028501 Leads, RHF Csl/Torch, 30 Ft
- 028502 Leads, RHF Csl/Torch, 35 Ft
- 028503 Leads, RHF Csl/Torch, 40 Ft

⑩ **Leads Between Gas Console and Torch**

- 028538 Leads, Gas Csl/Torch, 15 Ft
- 028539 Leads, Gas Csl/Torch, 20 Ft
- 028540 Leads, Gas Csl/Torch, 25 Ft
- 028541 Leads, Gas Csl/Torch, 30 Ft
- 028542 Leads, Gas Csl/Torch, 35 Ft
- 028543 Leads, Gas Csl/Torch, 40 Ft

⑪ **Control Cable Between Power Supply and Cutting Machine Interface**

- 023487 Cable, Control, PS/Mach. Int., 25 Ft
- 023553 Cable, Control, PS/Mach. Int., 50 Ft
- 023554 Cable, Control, PS/Mach. Int., 75 Ft
- 023555 Cable, Control, PS/Mach. Int., 100 Ft

⑫ **Current Setpoint Cable Between Power Supply and Cutting Machine Interface**

- 023488 Cable, Curr. Setpt, PS/Mach. Int., 25 Ft
- 023566 Cable, Curr. Setpt, PS/Mach. Int., 50 Ft
- 023567 Cable, Curr. Setpt, PS/Mach. Int., 75 Ft
- 023568 Cable, Curr. Setpt, PS/Mach. Int., 100 Ft

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- 028748 Leads, PS/Gas Csl, 125 Ft

⑧ **PAC182 Torch w/Off-Valve Assy**

- 028845 PAC182 Torch Assy without IHS Tab
- 028846 PAC182 Torch Assy with IHS Tab

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