Plasma & Flame Surface Treaters
Cable Management Guidelines

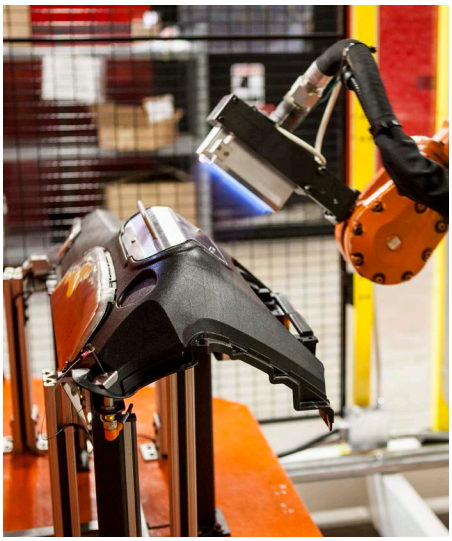
GENERAL GUIDELINES

- Secure the cable in a way that allows flexibility, articulation and free movement
- Avoid ridged clamps to the cable
- Avoid creating pinch and wear points
- Do not extend the cable to its maximum length (don't pull tight) during motion.
- Consider the use of swivel clamps
- Avoid rubbing the cable against the robot arm, product, guarding or tooling
- During movement minimize the amount of cable twisting
- Clamps to the head are ok as long as they are ungrounded
- Avoid sharp bends particularly where the treatment head and cable connect
- Limit cable bends to 10" radius for static mounting

Robotic Specific Cable Manangement

Enercon works with a number of suppliers who offer cable management components specifically developed for leading brands of Robotics.

For more information and custom reccommendations for your next project please contact Enercon's application experts.



Blown-ion™ Multiport™ Series Quick Start Guide

See included diagrams and manuals for additional information and installation guidelines.

1 Plasma Treater Cabinet

Table top enclosure designed to be positioned on a shelf or table, allow 12" of space for cooling.

2 Head Mounting

Mount treater heads in desired location. Heads should be mounted with a non-conductive material, hooded, vented and guarded.

(Mounting brackets available for 250 & 500 systems through Enercon)

3 Air & Cable Connections

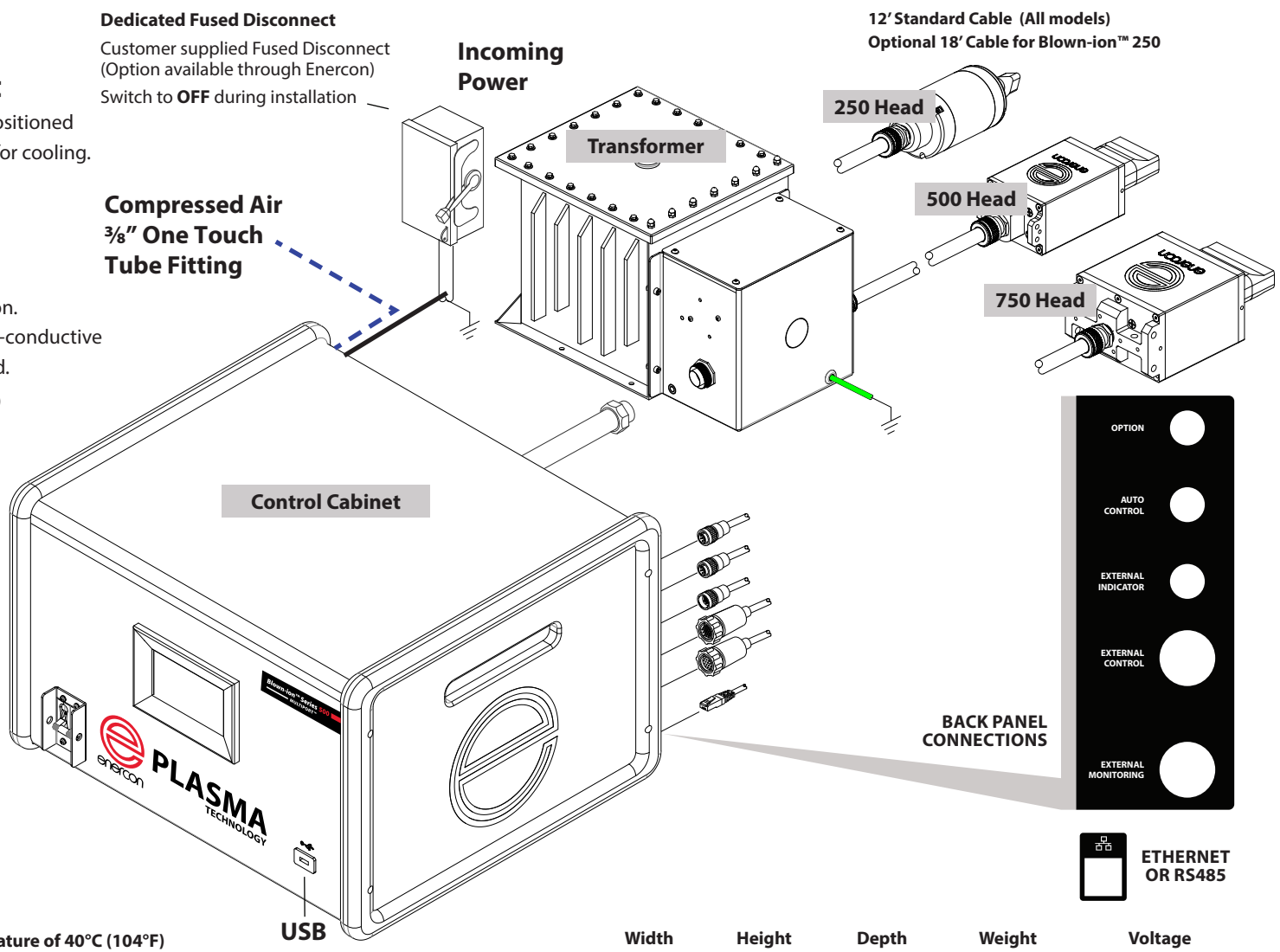
Connect compressed air to air inlet on back of unit.

COMPRESSED AIR 90-110 PSI
AIR CONSUMPTION:
Blown-ion™ 250 – 115 L/min
Blown-ion™ 500 – 230 L/min
Blown-ion™ 750 – 345 L/min

4 Incoming Power

Connect power to fused disconnect. 240v (plug not supplied)

Operate in a maximum ambient temperature of 40°C (104°F) @ 80% maximum relative humidity, non-condensing.

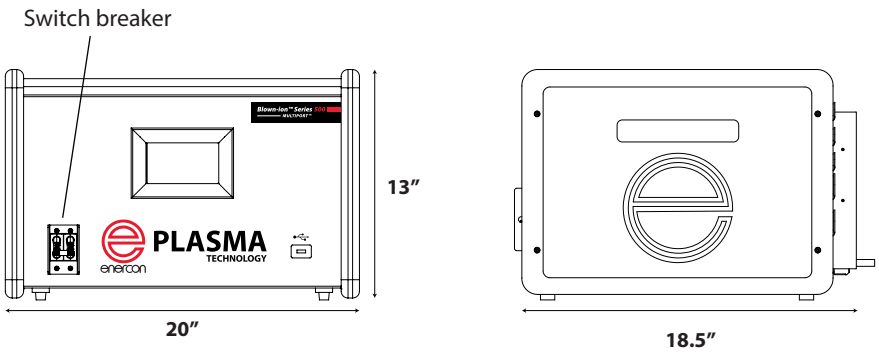


	Width	Height	Depth	Weight	Voltage
CABINET	20"	13"	18.5"	60 lbs.	240v

Innovative People.
Ensuring Your Treating Success.

+1.262.255.6070 / www.enerconind.com

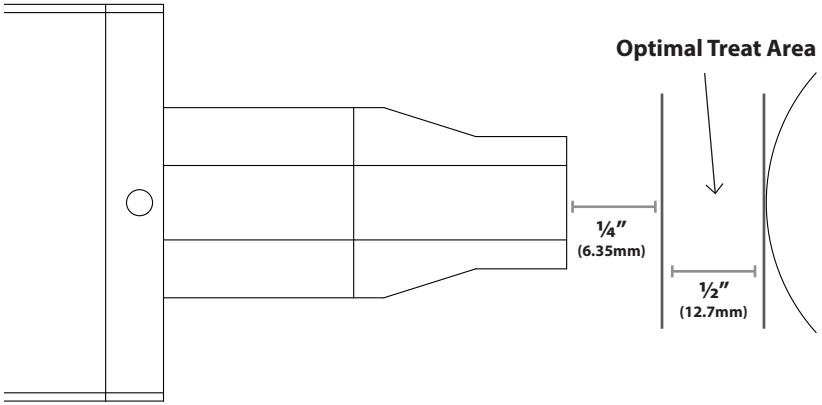
Blown-ion™ Series Cabinet



Treatment Distance

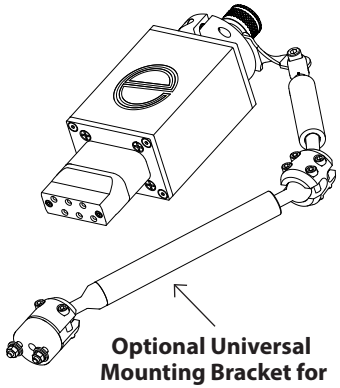
The gap between the front surface of the discharge head and the product surface is dependent on the application. The optimal gap is between ¼” (6.35mm) and ½” (12.7mm) for most applications, however some applications may require a larger or smaller gap.

NOTE: The Blown-ion™ 250 discharge head utilizes a triangular nozzle. It is recommended that the head or material moves in the direction of one of the vertices in order to achieve even treatment across the material.



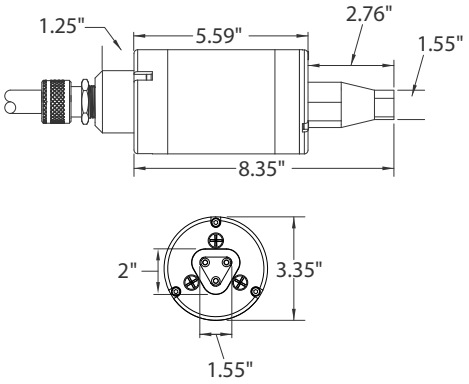
Head Mounting

The discharge head should be securely mounted with a non-conductive material.

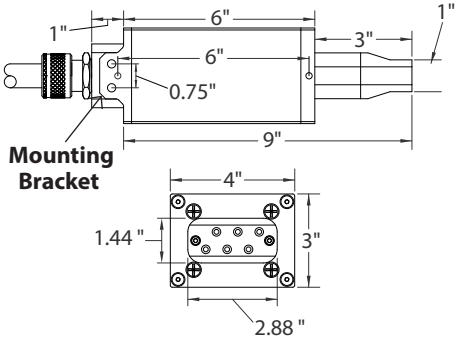


Head Dimensions

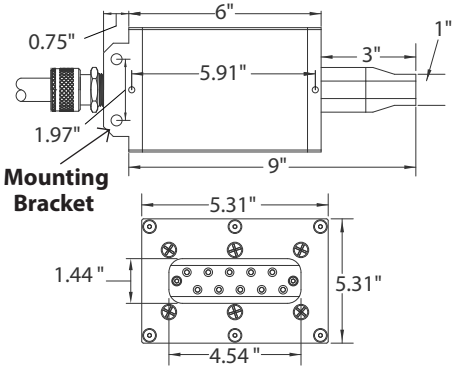
Blown-ion™ 250



Blown-ion™ 500



Blown-ion™ 750



Blown-ion™ Series Touchscreen Operation

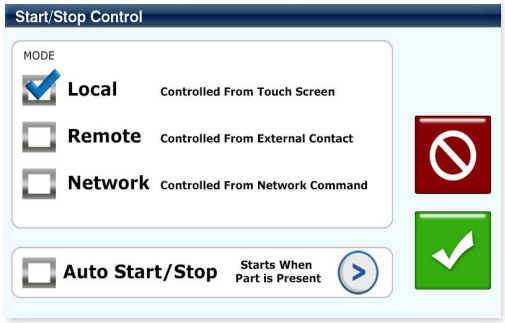
Head Operation

1 By default, head is disabled. Press the disabled button to enable head.

2 Once enabled, press the start button to start the plasma discharge.

3 Press the stop button to stop the plasma discharge.

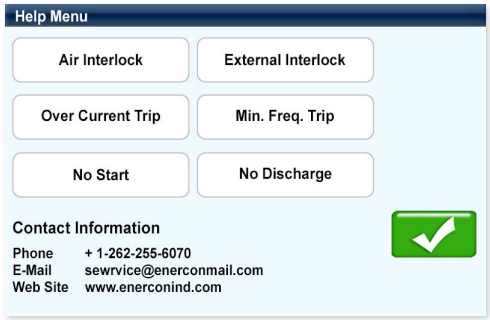
Touchscreen Operation Settings



1 Set operation mode - Local, Remote or Network

2 Press ✓ to enable the selected mode and return to the Settings screen, or press ⊘ to return to the Settings screen without making any changes.

Blown-ion™ Help Menu



1 Press Data > ? to access Help Menu.

2 Review and select from list.

Preventative Maintenance

When operated under normal conditions, the Blown-ion™ Series Surface Treater will require little to no service at all. It is important, however, that the discharge head is frequently checked to assure that it is free from any dust or dirt build-up. Any accumulation of dirt within the nozzle can cause arcing and subsequent damage to the assembly. The electrodes are a wear item. When replacing electrodes, make sure to change all electrodes at the same time to ensure consistent treatment.

Blown-ion™ Series Support

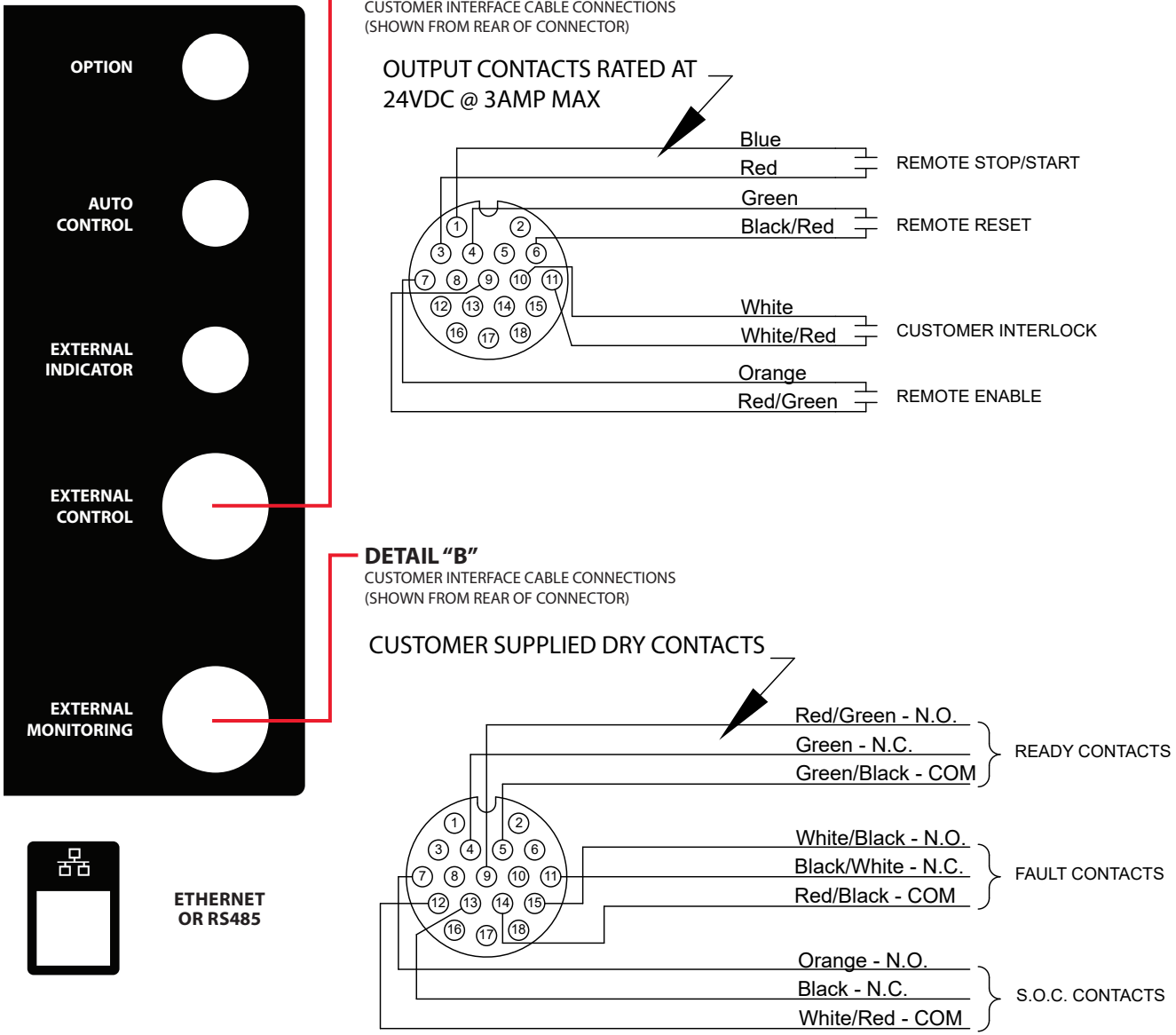
Thank you for choosing Enercon. Our team is committed to ensuring your success.

If you need any assistance please call us at **+1.262.255.6070** or e-mail **service@enerconmail.com**

⚠ DANGER

When the circuit breaker is off, voltage is still present within the power supply.
When running, high voltage is present within the power supply, HV transformer and plasma discharge.

Interface Connections



Ethernet Network Configuration

Standard T-568 straight through pinout

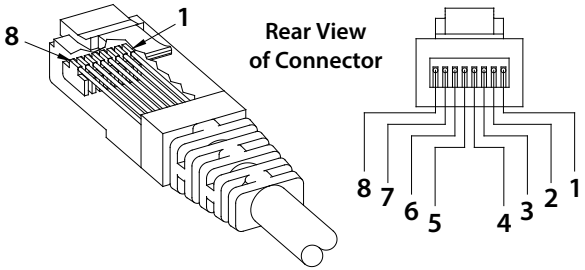
Modbus Data Map

The Blown-ion™ Multiport Plasma Treater acts as the Slave/Server device. It will respond to Modbus TCP/RTU commands from a Master/Client device. See manual for full address layout.

Serial Network Configuration

If you select the Serial Network configuration, you will need to provide a custom serial cable. The pinouts for the cable should be as follows.

Communicates via RT4



Pin#	Description
1	No Connection
2	Common
3	No Connection
4	TX / RX (-)
5	TX / RX (+)
6	No Connection
7	No Connection
8	Common

Flame Pro Quick Start Guide

See included diagrams and manuals for more detailed information.

1 Flame Treater Cabinet

Mount Flame Treater upright using mounting holes on the back of the cabinet. (page two)

2 Burner Mounting & Connections

Mount burner in desired location, connect ignition cable and ground wire to burner. Connect air/gas mixture hose to cabinet.

3 Air, Gas & Cable Connections

Connect gas line to supplied ball shut off valve and compressed air to air inlet **(See page 2 for connection details).**
A **customer supplied regulator** * is needed to regulate the incoming gas pressure.

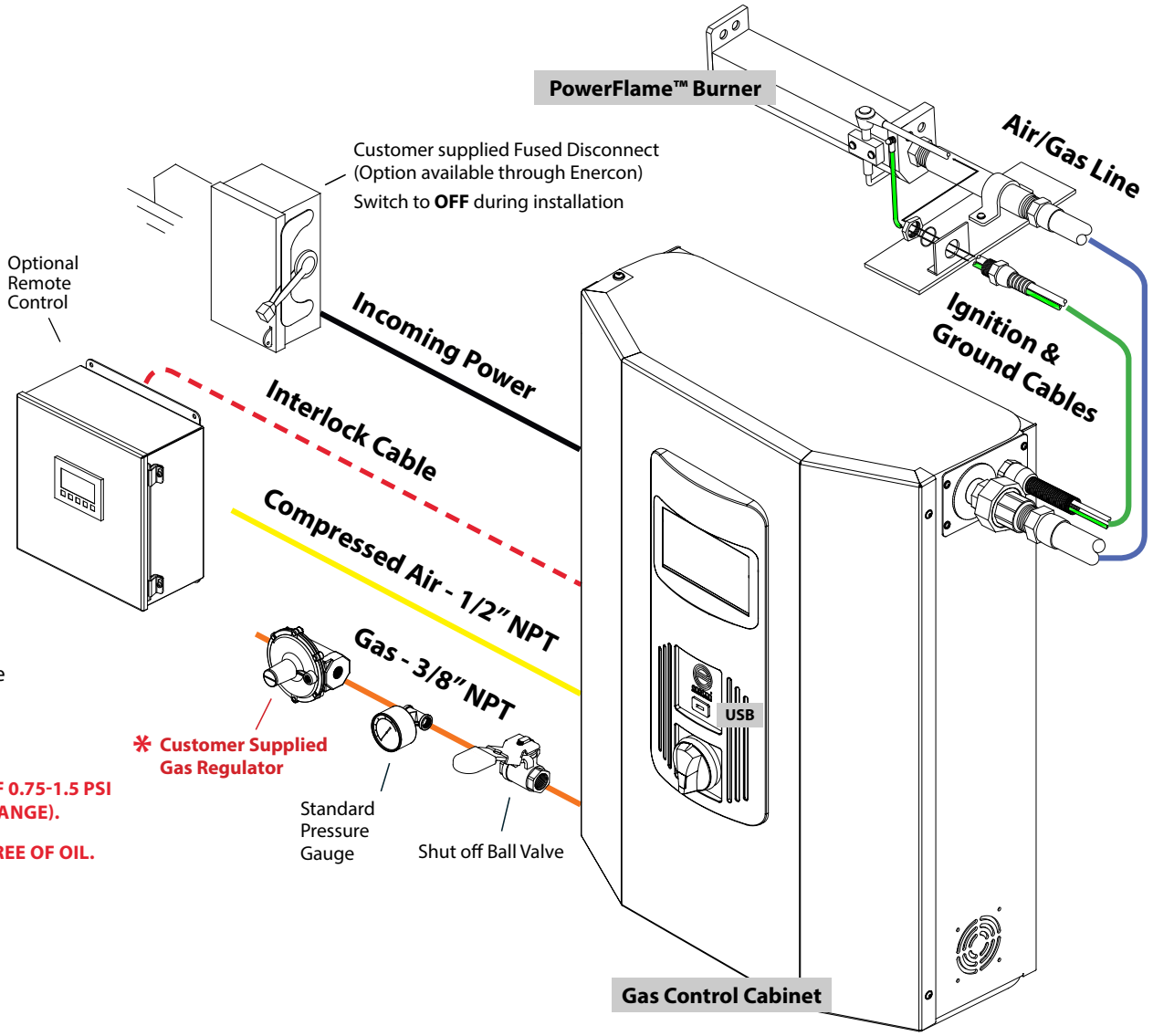
USE PROPANE OR NATURAL GAS.

* **CUSTOMER REQUIRED TO MAINTAIN A GAS PRESSURE OF 0.75-1.5 PSI THROUGHOUT ENTIRE OPERATING RANGE (OR POWER RANGE).**

COMPRESSED AIR: 75-115 PSI (5-8 BAR) FILTERED, DRY FREE OF OIL.

4 Incoming Power

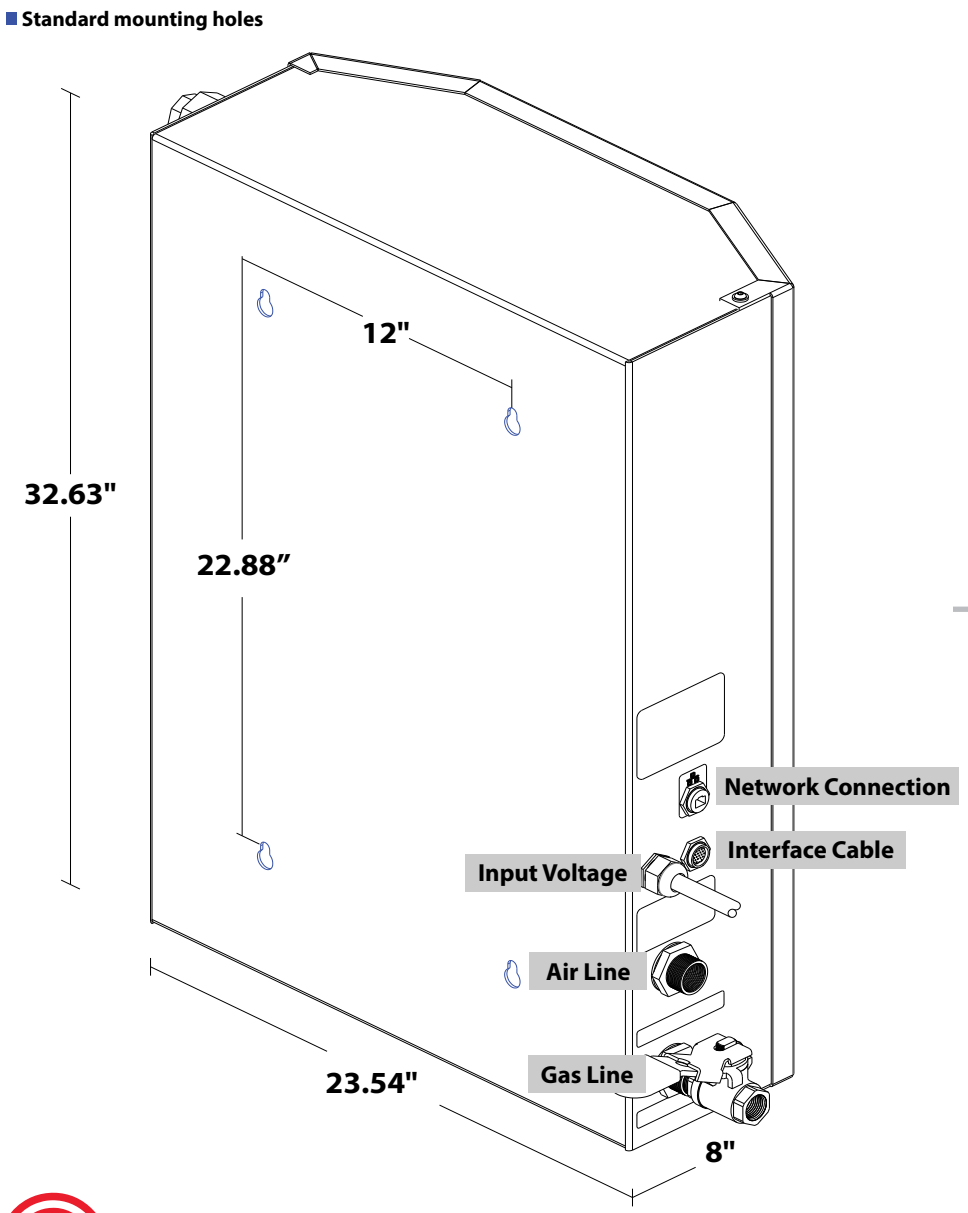
Connect power to fused disconnect.

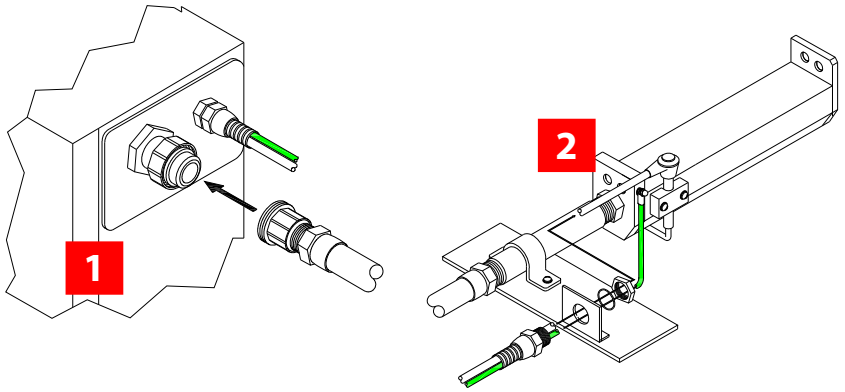


Innovative People.
Ensuring Your Treating Success.

+1.262.255.6070 / www.enerconind.com/treating/support

Flame Pro Assembly





Burner Installation

1 Attach mixture hose assembly to cabinet.

2 Attach ignition cable and ground wire to burner body.

High Voltage Cable, Gas and Compressed Air Connection Tips

1 Connect compressed air line to female 1/2” NPT fitting.
75-115 psi (5-8 bar) filtered, dry free of oil.

2 Connect gas supply line to female 3/8 ” NPT ball valve.
Maintain a gas pressure of 0.75-1.5 psi throughout entire operating range.

3 Connect input voltage cable.
Electrical – 120V or 240V (+ or – 10%) (**Voltage is not universal. Refer to rating plate for requirements.**)

4 Optional Remote Operation: For remote operation, remove interlock defeat plug and attach supplied customer interface cable. Refer to manual for wiring into customer controls.
The provided defeat connector is required if remote control is not utilized.

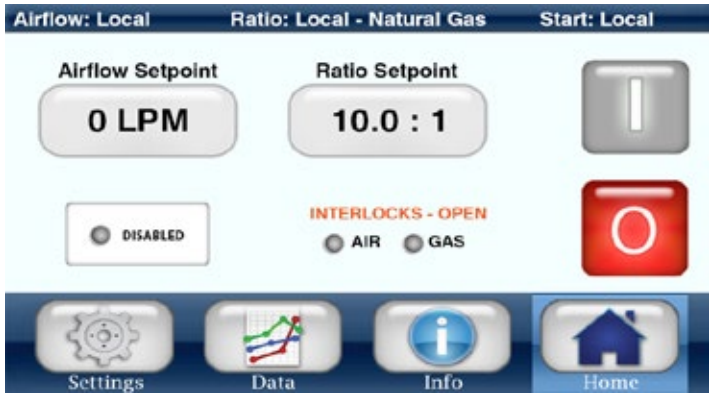
Flame Pro Operation

System Start Up

1 Turn switch to ON.

2 The Enercon logo and loading screen will be displayed briefly on the touchscreen as the software loads, displaying the Home Screen.

Home Screen



STARTING **During the initial startup, all the piping will be empty of the air/gas mixture. The mixture will need to fill the piping before it can be lit. Several attempts to light the burner may be necessary depending on the length of the piping + the flame power/output setpoint.**

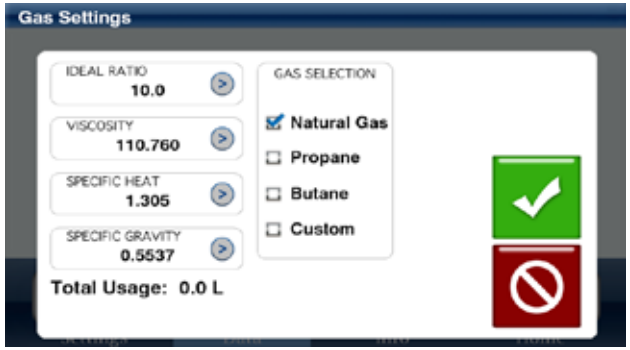
STOPPING **Always ensure that the flame is extinguished before switching power off to the device to allow the system to be purged.**

Control Modes

1 SETTINGS > CONTROL MODE
Set operation mode - Local, Remote or Network

2 Press ✓ to enable the selected mode and return to the Settings screen, or press ⊘ to return to the Settings screen without making any changes.

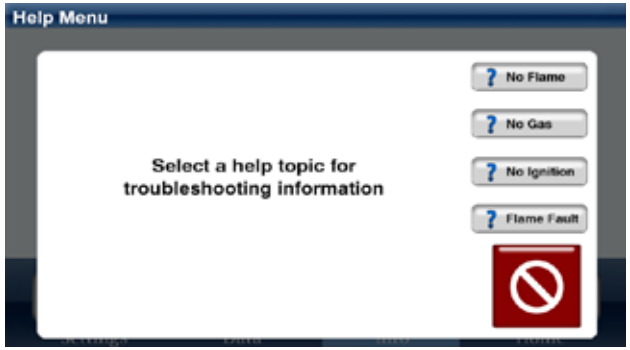
Gas Settings



1 SETTINGS > GAS SETTINGS
Select operating gas used.

2 Ability to use custom mixtures. (See Manual)

Help Menu



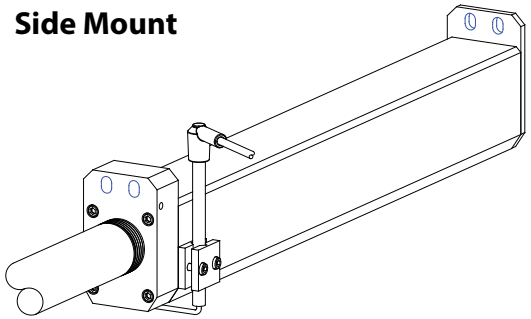
1 Press Data > ? to access Help Menu.

2 Review and select from list.

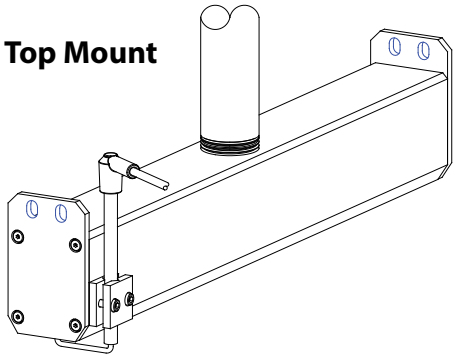
Burner Mounting

Standard mounting holes
Holes are 9/32" x 13/32", located .75" apart.

Side Mount



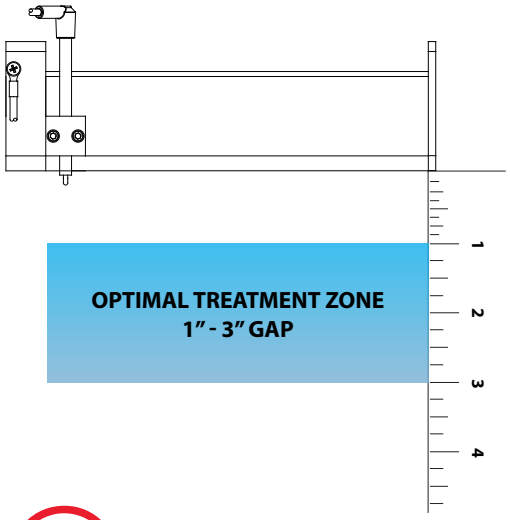
Top Mount



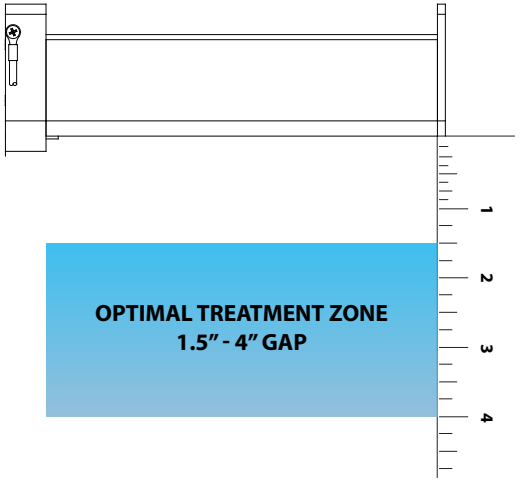
Treatment Distance

* Gaps outside of these zones may be required for some applications.

24 Series Burner

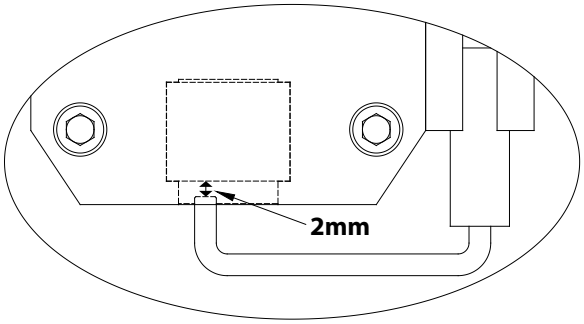


226 Series Burner



Electrode Gap

The gap of the ignition electrode to the burner face should be 2mm to receive an appropriate spark



Flame Treater Pre-Installation Checklist

- ☐ Incoming Gas Pressure Regulator (0.75-1.5 PSI)
- ☐ Incoming Air Regulation & Filtration (75-115 PSI, 5-8 BAR, Dew Point: <32°F @ atmospheric pressure; Air Quality: <20 ppm hydrocarbons)
- ☐ Dedicated Fused Disconnect with proper system grounding (see quote for voltage requirements)
- ☐ Mounting Plan for Power Supply and Burner
- ☐ Exhaust Plan (see quote for exhaust requirements)

Flame Pro Series Support

Thank you for choosing Enercon. Our team is committed to ensuring your success.

If you need any assistance please call us at **+1.262.255.6070** or e-mail **service@enerconmail.com**