

GAS INNOVATIONS HEATING ASSEMBLIES
Operational Performance Data

Model HD For Use With Propylene or any Commercial Fuel Gas EXCEPT Acetylene

HEAD SIZE	FUEL GAS PSIG MIN-MAX	OXYGEN PSIG MIN-MAX	FUEL GAS CONSUMPTION CFH MIN - MAX	FUEL GAS CONSUMPTION LBS/HR MIN - MAX	OXYGEN CONSUMPTION CFH MIN - MAX	BTU PER HOUR
*1	15-20	60-80	70-100	8-11	100-180	CFH (GAS) X BTU Per cu. Ft. see BTU Chart
*2	15-20	60-70	100-150	11-17	200-300	
*3	15-25	60-100	150-200	17-22	350-460	
*4	20-35	90-120	250-350	28-39	600-800	
*5	30-50	100-150	400-500	44-55	900-1150	

Model PNG For Use With Natural Gas and Propane

HEAD SIZE	PROPANE PRESSURE P.S.I.G. Min-Max	OXYGEN PRESSURE P.S.I.G. Min-Max	PROPANE CONSUMPTION CPH Max	OXYGEN CONSUMPTION CPH Min-Max	BTU PER HOUR
10	2-10	30-45	55-110	180-210	CFH (Gas) X BTU Per cu. Ft.
20*	2-12	40-60	90-180	310-330	
30*	2-15	60-80	170-260	450-600	
40*	2-20	80-100	240-290	550-800	see BTU Chart Page 5
50*	10-25	90-110	280-450	780-980	

Model MFA For Use With Acetylene ONLY

HEAD SIZE	ACETYLENE PRESSURE P.S.I.G. Min-Max	OXYGEN PRESSURE P.S.I.G. Min-Max	ACETYLENE CONSUMPTION CPH Max	OXYGEN CONSUMPTION CPH Min-Max	BTU PER HOUR
4	4-8	8-12	5-19	7-22	CFH (Gas) X BTU per cu, ft,
6	5-12	10-15	14-40	15-44	
8	8-14	20-30	30-80	33-88	
10	10-15	30-40	40-100	44-110	see BTU Chart Page 5
12*	12-15	50-60	60-150	65-165	
15*	12-15	50-60	90-220	100-245	

*Use Largest Capacity O.E.M. Torch Butt Available & 3/8' Hose

MODEL 'BRAZE " & "SPOT" FOR USE WITH ANY COMMERCIAL FUEL GAS EXCEPT ACETYLENE

HEAD SIZE	FUEL GAS PRESSURE P.S.I.G. Min-Max	OXYGEN PRESSURE P.S.I.G. Min-Max	FUEL GAS CONSUMPTION CPH Min-Max	FUEL GAS CONSUMPTION CPH Min-Max	BTU PER HOUR
Spot 1	5-15	40-55	70-150	120-300	CFH (Gas) X BTU Per cu. Ft.
Spot 2*	7-20	45-65	80-175	150-350	
Spot 3*	10-25	50-80	100-200	200-400	
Braze 2	3-5	10-12	45-70	80-140	see BTU Chart Page 5
Braze 4	4-6	12-15	50-80	100-160	
Braze 6	5-8	15-20	70-90	140-180	
Braze 8	7-12	20-23	80-125	160-250	
Braze 10*	11-15	35-50	105-150	200-300	
Braze 12*	14-20	50-75	140-175	280-350	

Approximate Gross B.T.U's Per Cubic Foot:

Acetylene-1470	MAPP-2400	Natural Gas-1000	Propylene-2400
		Propane-2500	

Use Largest Capacity O.E.M. Torch Handle Available & 3/8" Hose

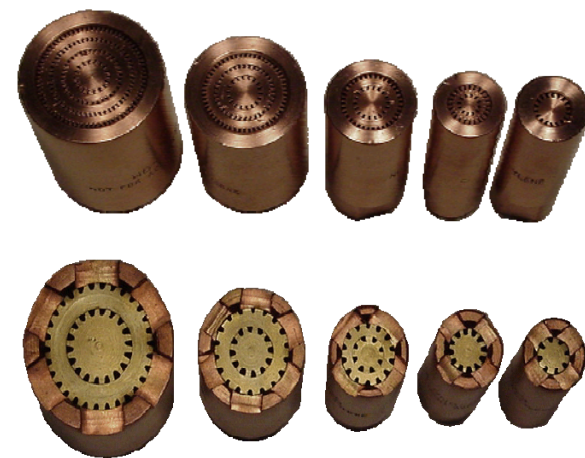
1. Large heating assemblies require high volumes of gas to keep flames burning properly. "starving the flame will overheat the tip and cause a backfire or flashback (hissing sound inside the head). If additional flow capacity is required, use a manifold system of sufficient size to supply the necessary gas volume. At no time should the withdrawal rate of an individual acetylene cylinder exceed 1/7 of the cylinder contents per hour. Consult your gas supplier for withdrawal rates for the other fuel gases. Refer to the chart above for recommended pressure settings and consumption data.
2. Use 3/8" ID hose and heavy duty torch handle with any heating assembly shown with *
3. **IMPORTANT:** If a flashback occurs, immediately close the Oxygen Valve first. Then close the fuel valve.

GAS INNOVATIONS
Approaching an old industry in a new way

INFERNO® HEATING EQUIPMENT

IMPORTANT OPERATING AND SAFETY INSTRUCTIONS

FOR YOUR SAFETY



PLEASE READ CAREFULLY

DO NOT ATTEMPT TO OPERATE THIS APPARATUS UNLESS YOU ARE TRAINED IN ITS PROPER USE OR ARE UNDER COMPETENT SUPERVISION.

EVERY TIME this GAS INNOVATIONS Heating assembly is used the following safety and operation precautions **MUST BE PRACTICED!** Deviations from the following safety and operation instructions can result in fire, explosion, damage to the apparatus or injury to the operator.

1. Inspect the mixer end, coupling nut, and torch butt for damage, dirt, dust, oil or grease. Dirt or dust can be removed with a clean cloth. **DO NOT USE THE HEATING ASSEMBLY IF OIL, OR GREASE IS PRESENT!** Have your repair station clean the assembly and/or repair any damage.

2. Inspect the HEATING ASSEMBLY MIXER END for missing or damaged "O" rings. There must be two (2) "O" rings on the mixer end. Damaged or missing "O" rings can allow gases to prematurely mix and can cause backfires or flashback. Severe damage and personal injury can result.

3. Inspect the head of the welding torch butt. The seating surfaces must be in good condition. If dents, burns or burned seats are present, the seat must be re-surfaced. If torch is used with poor seating surfaces, backfire or flashback may occur resulting in personal injury and damage to the equipment.

4. Connect the heating assembly to the welding torch butt and hand tighten the coupling nut.

5. Partially open the torch oxygen valve and adjust the oxygen regulator pressure to coincide with the assembly model size you have selected.

6. Close the torch oxygen valve. Partially open the torch fuel valve and adjust the regulator pressure, similar to the way you did for the oxygen pressure. Close the fuel valve.

NOTE: For best performance, use maximum oxygen and fuel gas pressures.

7. Hold the torch in one hand and the spark lighter in the other.

8. Open the torch fuel valve approximately one-half turns and ignite the fuel. Point the flame away from persons, the cylinders, or any flammable materials.

9. Keep opening the fuel valve until the flame stops excessive smoking and leaves the end of the tip about one-eighth of an inch, then reduce slightly to bring flame back to the tip. If you cannot clear all the smoke from the flame, increase the pressure on the fuel regulator until the smoke clears. Do not exceed 15 pounds on the regulator setting if acetylene is used. If the smoke still cannot be cleared, a hose with a larger diameter or shorter length must be used.

10. Open the torch oxygen valve until a bright inner cone appears on the flame. The point at which the feathery edges of the flame disappears and sharp inner cone is visible is called the "Neutral Flame". Do not add oxygen beyond the neutral flame as a flashback is made more likely to occur when using a lean or "Oxidizing" flame.

11. WHEN YOU FINISH YOUR HEATING OPERATION.

- a. First shut off the torch FUEL valve, then shut off the torch OXYGEN valve. If this procedure is reversed, a "pop" may occur. The "pop" throws carbon soot back into the torch and may in time partially plug it
- b. Close both cylinder valves.
- c. Open the torch oxygen valve, and release the pressure in the hose and regulator. Close the torch valve.
- d. Turn the adjusting screw on the oxygen counter-clockwise until the adjusting spring pressure is released.
- e. Open the torch fuel valve and release the pressure in the hose and regulator. Close the torch valve.
- f. Repeat "d" using "fuel" regulator.

GAS INNOVATIONS

Approaching an old industry in a new way



NOTE: The use of reverse flow check valves is strongly recommended to reduce the possibility of mixing gases in the hoses and regulators. Mixed gases will burn rapidly once the torch is lighted. These combustible gases can explode in the hoses and regulators, or cylinders resulting in damage to the apparatus and injury to the operator.

Check Valves & Flash Arrestors are available from GAS INNOVATIONS or your Distributor.

GAS INNOVATIONS offers a variety of Flash Arrestor equipment from in-line Point of supply to torch and regulator Flash Arrestors. All of GAS INNOVATIONS Flash arrestors are approved safety devices under ANSI Z49.199 safety guide lines and help meet OSHA, NFPA and other strict industry Safety standards

In-Line point of Supply



Torch Flash Arrestors



CONTACT GAS INNOVATIONS
FOR A SELECTION OF CHECK
VALVES AND FLASHARRESTORS.
281-471-2200