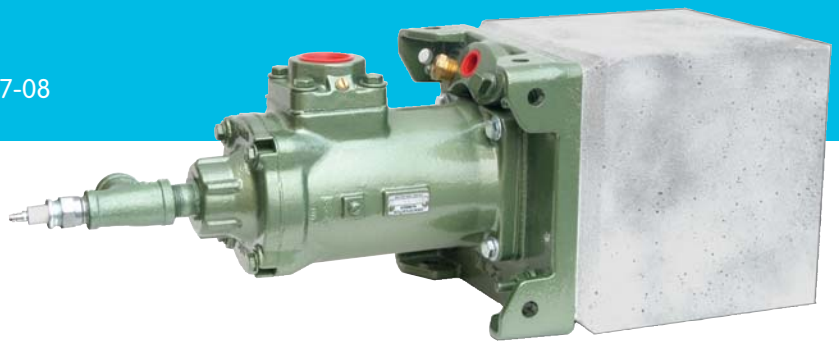
WHG

Wall Hugger Gas Burner

WHG-1
Edition 07-08



Hauck, a product brand of the Elster Group

- Flat flame profile throughout entire firing range
- Direct spark or gas pilot ignition
- Immediate ramping up to high fire reduces furnace heat-up time
- Stable operation in cold furnace at low excess air
- Even heat distribution with no flame impingement
- UV or flame rod flame supervision
- Preheated air up to 800°F (425°C)

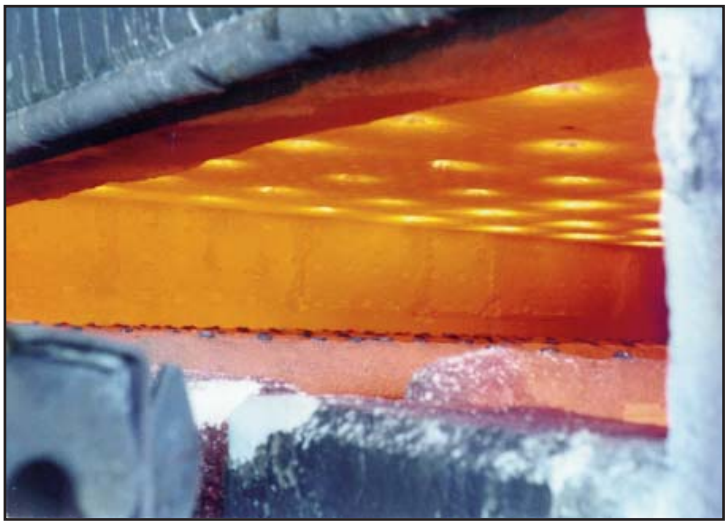
Hauck's WHG Wall Hugger flat flame gas burner is designed for applications requiring even heat distribution with no flame impingement. The burner's flame pattern promotes even heating by radiation from the furnace walls and roof. The flame hugs the wall allowing the burner to be placed close to the load.

The WHG incorporates a port for monitoring the pilot and main flames with either a UV scanner or flame rod. Direct spark or gas pilot ignition is available. The burner, mounting plate and refractory tile are shipped as an assembled unit ready for mounting on the furnace. The WHG can be installed to fire in any position.

The WHG can be ignited and brought to high fire immediately, even in a cold, tight furnace. This reduces furnace heat-up time.

The burner performs equally well when firing on-ratio, or with excess air limits ranging from 175 to 400% at 16 osig (6900 Pa) inlet air pressure.

The WHG may be used in furnaces with chamber temperatures up to 2500°F (1370°C). It is also available in a complete packaged system as the WHG Packaged Burner.



Roof Mounted WHG Burners on Aluminum Melting Furnace

FLAME CHARACTERISTICS			
BURNER SIZE	**APPROX. FLAME DIA.***	**APPROX. MAX. FORWARD FLAME TRAVEL**	**MIN. TILE TO WORK DISTANCE****
WHG 112	15" (380 mm)	2" (50 mm)	8" (200 mm)
WHG 115	18" (460 mm)	3" (75 mm)	8" (200 mm)
WHG 120	26" (660 mm)	3" (75 mm)	8" (200 mm)
WHG 125	30" (760 mm)	4" (100 mm)	10" (255 mm)
WHG 130	34" (865 mm)	5" (125 mm)	11" (280 mm)
WHG 140	40" (1020 mm)	6" (150 mm)	13" (330 mm)

* The normal minimum centerline to centerline distance between burners is the same as the flame diameter. Burners may be positioned closer to each other, but there may be some gas interference.

** Recommended minimum tile to work distances should be maintained to avoid contact with the hot gases.

For additional information on this product, visit our website at:

www.hauckburner.com

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Hauck, a product brand of the Elster Group

WHG WALL HUGGER GAS BURNER

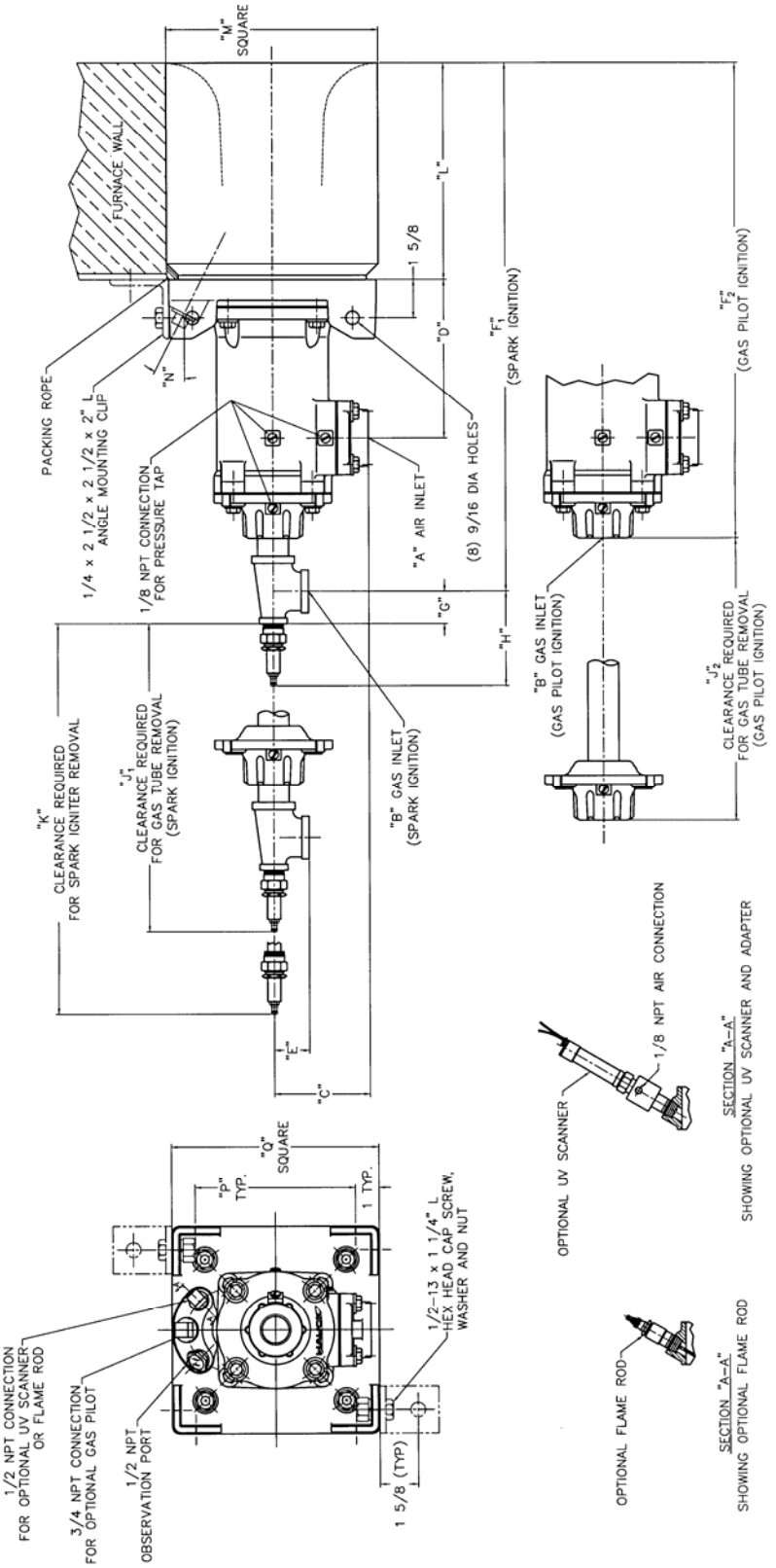
		MODEL NUMBER					
SPECIFICATIONS		**112**	**115**	**120**	**125**	**130**	**140**
HIGH FIRE	**Max. Input @ 10% Excess Air (Btu/hr)**	**175,000**	**430,000**	**660,000**	**950,000**	**1,350,000**	**2,300,000**
	Max. Air Flow @ 16 osig (scfh)	1,840	4,480	6,820	9,870	13,930	23,960
	Min. Input @ Max. Air Flow (Btu/hr)	45,420	108,100	144,800	275,800	359,900	620,400
	Max. Excess Air (%)	330	340	400	280	310	175
	Flame Length @ Max. Input (in.)	2	3	3	4	5	6
LOW FIRE	**Max. Input @ 10% Excess Air (Btu/hr)**	**45,000**	**110,000**	**175,000**	**235,000**	**340,000**	**575,000**
	Air Flow @ 1 osig (scfh)	455	1,120	1,840	2,410	3,530	5,980
	Min. Input @ Air Flow (Btu/hr)	12,720	26,680	32,050	75,270	76,510	176,300
	Max. Excess Air (%)	280	345	510	240	390	240

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G., and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level.
3. Static air pressures measured at the burner air inlet pressure tap.
4. Flame lengths measured from the end of the refractory tile.
5. All data based on industry standard air and gas piping practices.
6. Flame detection available via flame rod or UV scanner.
7. Burners can be operated up to a static inlet air pressure of 20 osig; consult Hauck.

(See Reverse Side for Metric Capacities)

WHG WALL HUGGER GAS BURNER



MODEL NO.	AIR INLET "A" NPT	GAS INLET "B" NPT	C	D	E	F_1	F_2	G	H	J_1	J_2	K	L	M	N	P	Q
WHG 112B	1 1/4 NPT	1 NPT	4 1/8	6 3/4	1 1/2	22 5/8	20 1/4	1 3/16	4 1/4	13 1/4	9 15/16	18 3/4	9 1/4	9	27"	6 13/16	8 13/16
WHG 115B	1 1/2 NPT	1 NPT	4 1/8	6 3/4	1 1/2	22 5/8	20 1/4	1 3/16	4 1/4	13 1/4	9 15/16	18 3/4	9 1/4	9	27"	6 13/16	8 13/16
WHG 120B	2 NPT	1 1/4 NPT	4 1/2	6 3/4	1 3/4	23	20 1/2	1 9/16	3 15/16	12 3/4	10 13/16	18 3/4	9 1/4	13 1/2	30"	11	13
WHG 125B	2 1/2 NPT	1 1/2 NPT	4 5/8	6 3/4	1 15/16	23 3/16	20 1/2	1 11/16	3 3/4	12 7/16	10 13/16	18 3/4	9 1/4	13 1/2	30"	11	13
WHG 130C	3 NPT	2 NPT	6	9 1/4	2 1/4	27 1/8	23 15/16	1 7/8	4 7/8	16 7/8	13 5/8	23 7/8	9 1/4	13 1/2	30"	11	13
WHG 140C	4 NPT	2 1/2 NPT	6 1/8	9 1/4	2 11/16	27 3/4	23 15/16	2 3/16	4 5/16	16	13 5/8	23 7/8	9 1/4	13 1/2	30"	11	13

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(NOT TO SCALE)

(See Reverse Side for Metric Dimensions)

In accordance with Hauck's commitment to Total Quality Improvement, Hauck reserves the right to change the specifications of products without prior notice.

WHG WALL HUGGER GAS BURNER

BURNER MODEL WHG 112B

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**45,000**	**90,000**	**125,000**	**150,000**	**175,000**	**200,000**
Max. Air Flow (Not Firing)	(scfh)					**1,875**	
Max. Air Flow	(scfh)	455	920	1,300	1,590	1,840	2,060
Burner Air Orifice ΔP	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	0.8	1.5	2.1	2.3	3.1	4.0
Max. Excess Air – UV Scanner	(%)	280	330	340	340	330	330
Flame Length	(in.)	1	2	2	2	2	2
Flame Diameter	(in.)	4	8	10	11	12	15
Min. Ignition Gas Flow	(scfh)	12	21	29	36	42	47

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.
5. Excess fuel firing not recommended.
6. Flame scanning via flame rod available. For flame rod firing limits, consult Hauck.

(See Reverse Side for Metric Data)

WHG WALL HUGGER GAS BURNER

BURNER MODEL WHG 115B

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**110,000**	**215,000**	**300,000**	**375,000**	**430,000**	**485,000**
Max. Air Flow (Not Firing)	(scfh)					**4,500**	
Max. Air Flow	(scfh)	1,120	2,220	3,170	3,880	4,480	5,020
Burner Air Orifice ΔP	("wc)	1.1	4.5	9.2	13.6	17.9	22.8
Gas Inlet Pressure	("wc)	0.4	0.8	1.9	6.4	8.3	10.5
Max. Excess Air – UV Scanner	(%)	340	390	380	380	340	350
Flame Length	(in.)	3	3	3	3	3	3
Flame Diameter	(in.)	8	12	14	16	18	22
Min. Ignition Gas Flow	(scfh)	25	45	65	80	100	110

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.
5. Excess fuel firing not recommended.
6. Flame scanning via flame rod available. For flame rod firing limits, consult Hauck.

(See Reverse Side for Metric Data)

WHG WALL HUGGER GAS BURNER

BURNER MODEL WHG 120B

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**175,000**	**310,000**	**445,000**	**560,000**	**660,000**	**720,000**
Max. Air Flow (Not Firing)	(scfh)					**6,950**	
Max. Air Flow	(scfh)	1,840	3,230	4,590	5,780	6,820	7,470
Burner Air Orifice ΔP	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	0.2	0.3	0.9	1.4	2.1	2.5
Max. Excess Air – UV Scanner	(%)	510	480	470	400	400	390
Flame Length	(in.)	3	3	3	3	3	3
Flame Diameter	(in.)	4	5	8	17	26	30
Min. Ignition Gas Flow	(scfh)	30	55	80	115	135	150

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.
5. Excess fuel firing not recommended.
6. Flame scanning via flame rod available. For flame rod firing limits, consult Hauck.

(See Reverse Side for Metric Data)

WHG WALL HUGGER GAS BURNER

BURNER MODEL WHG 125B

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**235,000**	**465,000**	**660,000**	**820,000**	**950,000**	**1,050,000**
Max. Air Flow (Not Firing)	(scfh)					**10,100**	
Max. Air Flow	(scfh)	2,410	4,820	6,820	8,490	9,870	10,800
Burner Air Orifice ΔP	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	0.2	0.8	1.6	2.5	3.2	3.8
Max. Excess Air – UV Scanner	(%)	240	240	270	300	280	260
Flame Length	(in.)	4	4	4	4	4	4
Flame Diameter	(in.)	4	6	10	20	30	35
Min. Ignition Gas Flow	(scfh)	70	140	185	210	260	300

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.
5. Excess fuel firing not recommended.
6. Flame scanning via flame rod available. For flame rod firing limits, consult Hauck.

(See Reverse Side for Metric Data)

WHG WALL HUGGER GAS BURNER

BURNER MODEL WHG 130C

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**340,000**	**685,000**	**975,000**	**1,170,000**	**1,350,000**	**1,500,000**
Max. Air Flow (Not Firing)	(scfh)					**14,200**	
Max. Air Flow	(scfh)	3,530	7,070	10,100	12,100	13,900	15,600
Burner Air Orifice ΔP	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	0.2	0.7	1.4	2.0	2.7	3.4
Max. Excess Air – UV Scanner	(%)	390	330	310	310	310	310
Flame Length	(in.)	5	5	5	5	5	5
Flame Diameter	(in.)	6	8	18	24	35	38
Min. Ignition Gas Flow	(scfh)	70	160	245	285	335	350

NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.
5. Excess Fuel firing not recommended.
6. Flame scanning via flame rod available. For flame rod firing limits, consult Hauck.

(See Reverse Side for Metric Data)

WHG WALL HUGGER GAS BURNER

BURNER MODEL WHG 140C

		STATIC AIR PRESSURE (OSIG) AT BURNER INLET TAP					
		1 OSIG	**4 OSIG**	**8 OSIG**	**12 OSIG**	**16 OSIG**	**20 OSIG**
Burner Input @ 10% Excess Air	**(Btu/hr)**	**575,000**	**1,150,000**	**1,650,000**	**2,000,000**	**2,300,000**	**2,600,000**
Max. Air Flow (Not Firing)	(scfh)					**24,400**	
Max. Air Flow	(scfh)	5,980	12,000	16,900	20,700	23,900	27,000
Burner Air Orifice ΔP	("wc)	---	---	---	---	---	---
Gas Inlet Pressure	("wc)	0.3	1.2	2.5	3.7	5.0	6.4
Max. Excess Air – UV Scanner	(%)	240	275	200	200	175	175
Flame Length	(in.)	6	6	6	6	6	6
Flame Diameter	(in.)	6	10	20	30	40	44
Min. Ignition Gas Flow	(scfh)	175	300	Will not Ignite	Will not Ignite	Will not Ignite	Will not Ignite

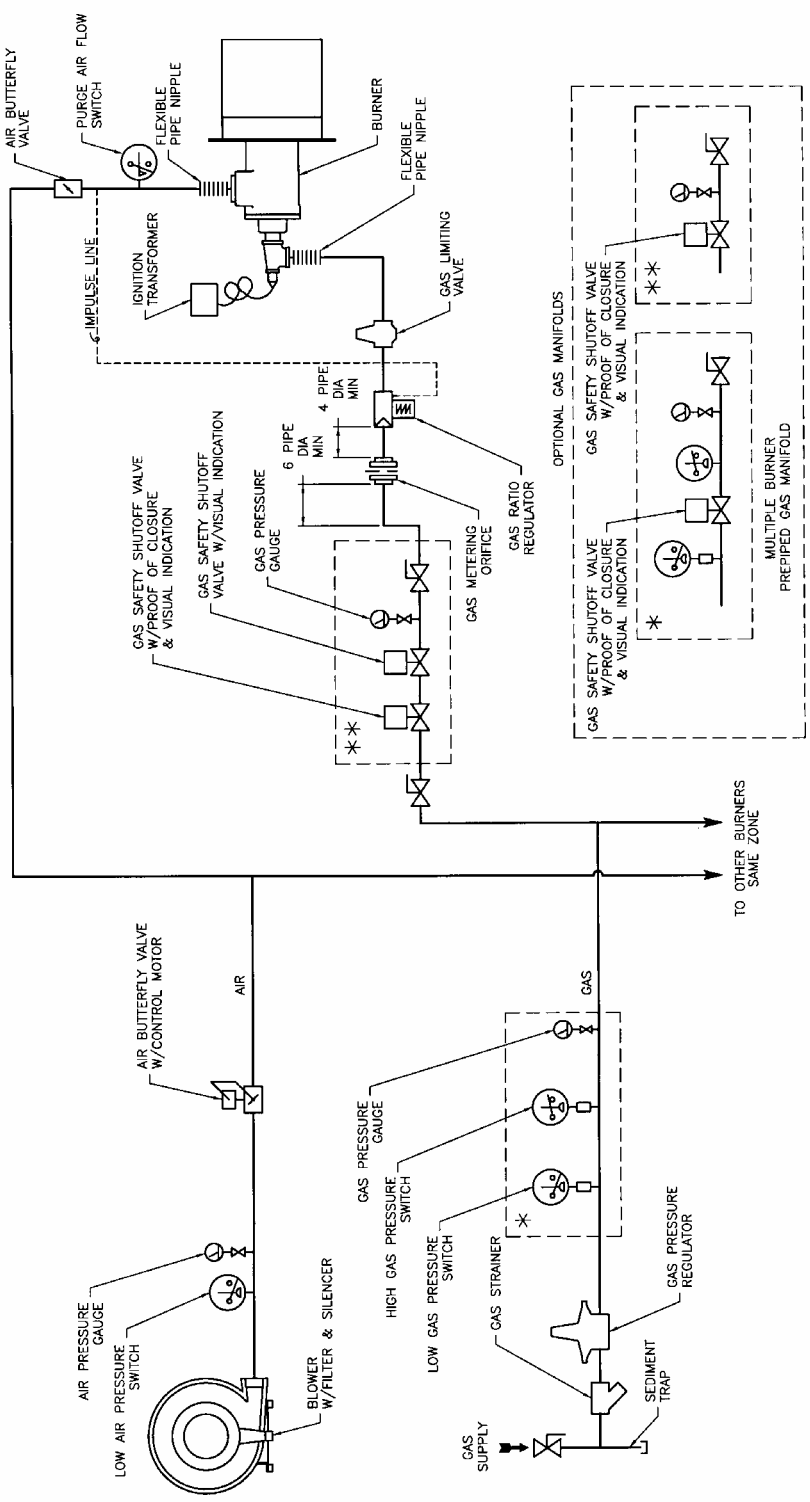
NOTES:

1. Capacities based on natural gas with HHV of 1034 Btu/ft^3, 0.59 S.G. and a stoichiometric air/gas ratio of 9.74:1 with burner firing into chamber under no pressure.
2. Air and gas flows based on 60°F @ sea level; capacities for preheated air will differ from those shown.
3. Flame lengths measured from the end of the refractory tile.
4. All data based on industry standard air and gas piping practices.
5. Excess fuel firing not recommended.
6. Flame scanning via flame rod available. For flame rod firing limits, consult Hauck.

(See Reverse Side for Metric Data)

WHG WALL HUGGER GAS BURNER

TYPICAL MULTIPLE BURNER SYSTEM RATIO CONTROL



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NOTES:
1. OPTIONAL GAS MANIFOLDS ARE PERMITTED AS AN EXCEPTION PER NFPA 86 2003 EDITION REQUIREMENTS FOR MULTIPLE BURNERS FIRING INTO A COMMON HEATING CHAMBER. HOWEVER, SPECIAL FEATURES ARE REQUIRED IN THE ASSOCIATED CONTROL SYSTEM (SEE HAUCK APPLICATION SHEET GJ76).