

KINEMAX®

Medium velocity gas or oil burners



- Exit velocities up to 275 ft/s (190 miles/h) to promote workload heat penetration and better furnace temperature uniformity
- Operate on-ratio, with excess fuel or with excess air to meet the specific demands of your combustion process needs
- Burns most clean, low pressure gaseous fuels or light oil
- Turndown capability up to 48:1
- Maximum application flexibility with 7 different sizes and maximum capacities ranging from 0.38 MBtu/h up to 8.4 MBtu/h
- Lower fuel consumption using preheated combustion air (up to 800° F)
- Refractory block for chamber temperatures up to 3000° F
- Removable backplate, providing access for easy inspection and/or maintenance
- KINEMAX® burners can be used with oxygen enriched combustion air

Product description

The KINEMAX® burner is a nozzle-mixing, medium velocity burner. It provides a stream of hot combustion gases that promote circulation within your furnace, improving both temperature uniformity and workload penetration.

The air/fuel mixing design allows for the burner to be operated on ratio throughout the firing range, with excess air up to 4700 % for some sizes or with excess fuel.

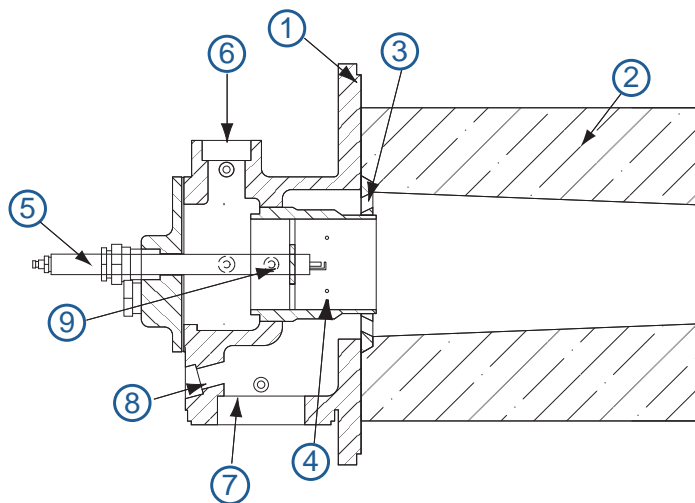
Series G KINEMAX® Burners are designed to operate on natural gas, propane or butane but can burn other gaseous fuels as well.

Combustion air enters the burner body and is swirled out into the burner block through the internal air orifice plate. Low pressure gas enters the burner body and exits to the block through machined ports in the gas nozzle.

The gas and air are intimately mixed in the cast burner block tunnel. The spark ignitor is positioned to intersect the fuel/air mixture directly in front of the nozzle face.

Pilot gas is introduced directly behind the gas ports in the gas nozzle and essentially flows through to the burner block through the same ports as does the main gas. The pilot capacity is the minimum firing rate of the KINEMAX® burner.

- 1) Burner body
- 2) Burner block
- 3) Air orifice plate
- 4) Gas nozzle
- 5) Spark ignitor
- 6) Main gas inlet
- 7) Combustion air inlet
- 8) UV scanner connection
- 9) Pilot gas connection



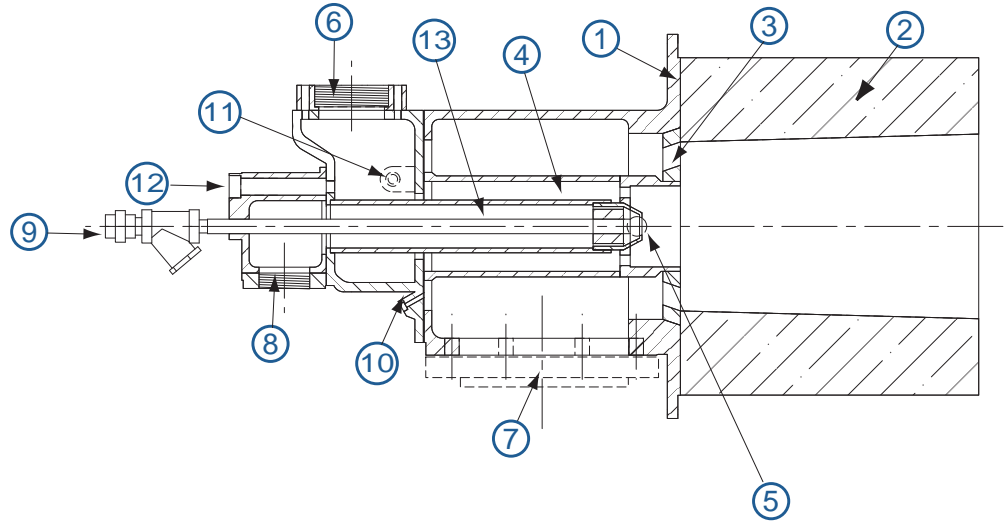
Series C KINEMAX® Burners are designed to operate on gas or on light oil.

Combustion air enters the burner body and is swirled out into the burner block through the air orifice plate. Low pressure gas enters the body and exits to the block through the gas tube and nozzle.

For light oil firing, the n° 2 oil enters through the strainer and oil tube going to the oil spinner nozzle where the stream of liquid oil is atomized by the atomizing air directly in front of the spark ignitor.

Gas for the pilot comes in through a separate inlet in the gas body and flows down the gas tube where it spins out the face of the gas nozzle in front of the spark ignitor.

- 1) Burner body
- 2) Burner block
- 3) Air orifice plate
- 4) Gas tube and nozzle
- 5) Spark ignitor
- 6) Main gas inlet
- 7) Combustion air inlet
- 8) Atomizing air inlet
- 9) Oil inlet
- 10) Combustion air pressure connection
- 11) Pilot gas inlet
- 12) Sight glass
- 13) Atomizing air tube



Available KINEMAX® sizes

Typical burner data									
60° F – 21 % O ₂ combustion air – 50 % humidity – natural gas with 1000 Btu/ft³ HHV - sg = 0.6 (1) Stated pressures are indicative - actual pressures are function of air humidity, altitude, type of fuel, gas quality									
KINEMAX® size	Series G (gas only)					Series C (gas/oil) (2)			
	1.5-G	2-G	3-G	4-G	6-G	2-C (gas)	2-C (oil)	6-C (gas)	6-C (oil)
Max. capacity (MBtu/h)	0.55	1.0	2.4	4.0	8.0	1.0	1.0	8.4	8.4
Turndown ratio (with 75 % excess air)	27:1	50:1	96:1	133:1	40:1	28:1	28:1	16:1	16:1
Comb. air flow at max. capacity scfm	92	167	400	667	1470	167	167	1470	1470
Natural gas inlet pressure ("wc)	4.2	4.2	3.8	3.2	6.2	4.2	4.2	6.2	6.2
Comb. air pressure at inlet ("wc)	26	26	26	26	26	26	26	26	26
Pilot capacity /min. capacity (MBtu/h)	20	20	25	30	200	40	40	525	525
Oil inlet pressure psig	-	-	-	-	-	-	10	-	13

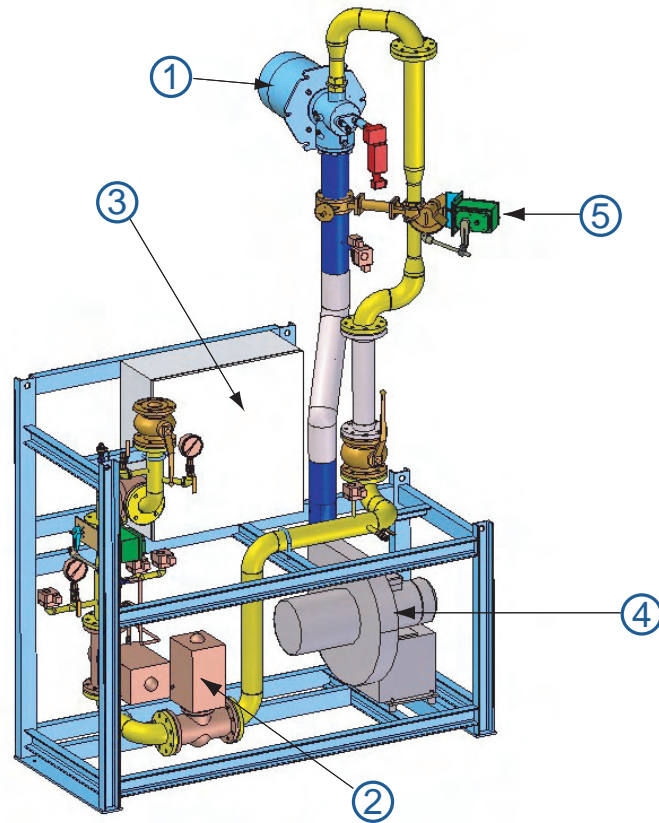
(1) sg (specific gravity) = relative density to air (density air = 80.72 pound/ft³(n)).

(2) light oil (#2 oil): 0.14 MBtu/gallon - viscosity to be max. 50 SSU

Applications

KINEMAX® burners are designed to be used in high temperature furnaces. They are commonly applied on heat treatment furnaces, oxidizers, melting furnaces, ceramic furnaces and other high temperature applications.

- 1) KINEMAX® burner
- 2) MAXON fuel safety shut-off valves
- 3) Control panel
- 4) Combustion air blower
- 5) MAXON MICRO-RATIO® or SMARTLINK™ fuel/air ratio control valve

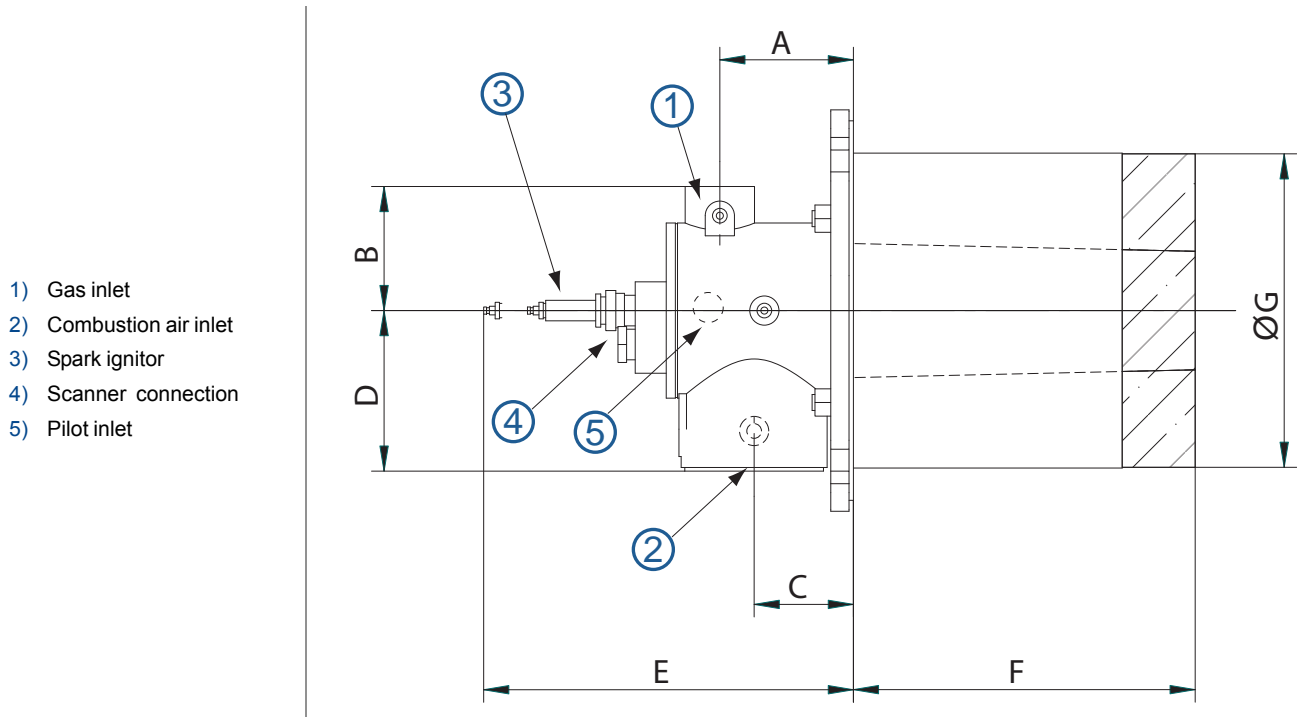


KINEMAX® Size 4 gas only burner in a complete system with burner control panel and natural gas pipe-train, including MAXON fuel safety shut-off valves and MAXON gas/air ratio control valve.

Dimensions and weights

KINEMAX® Series G - sizes 1.5 - 2 - 3 - 4

Gas only



Dimensions in inches unless stated otherwise															
Burner size	Gas inlet (1)		Comb.air inlet (1)		A	B	C	D	E (2)	F			ØG		Weight (lbs) (3)
	ANSI	ISO	ANSI	ISO						std. block	long block (opt.)	sleeve (opt.)	block	sleeve (opt.)	
1.5	3/4" NPT	Rp 3/4"	1 1/2" NPT	Rp 1 1/2"	3.69	3.38	2.75	4.31	11	9.25	13.5	9.5	8.62	4.0	75
2	1" NPT	Rp 1"	2" NPT	Rp 2"	3.69	3.38	2.75	4.31	11	9.25	13.5	9.5	8.62	4.25	75
3	1 1/2" NPT	Rp 1 1/2"	3" NPT	Rp 3"	4.44	4.19	3.31	6.38	14.3	9.25	13.5	9.5	10.12	5.38	90
4	2" NPT	Rp 2"	4" NPT	Rp 4"	4.81	4.5	4.06	7	16	9.25	13.5	9.5	11.0	6.85	110

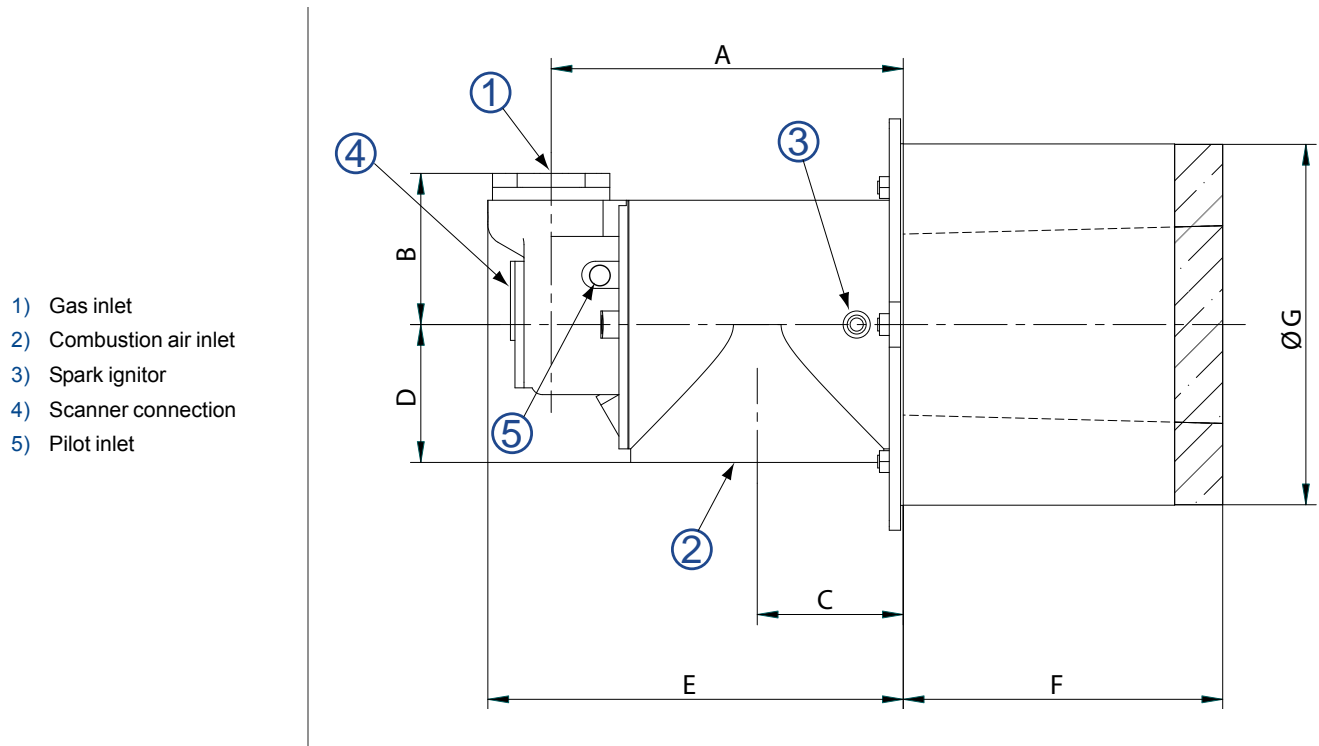
(1) Gas and air inlet are standard threaded connections. Optional welding flanges are available for sizes 3" and up.

(2) Includes clearance for spark ignitor removal.

(3) Weights are for burner with standard block. Data for burners with long block or stainless steel sleeve might differ slightly.

KINEMAX® Series G - size 6

Gas only



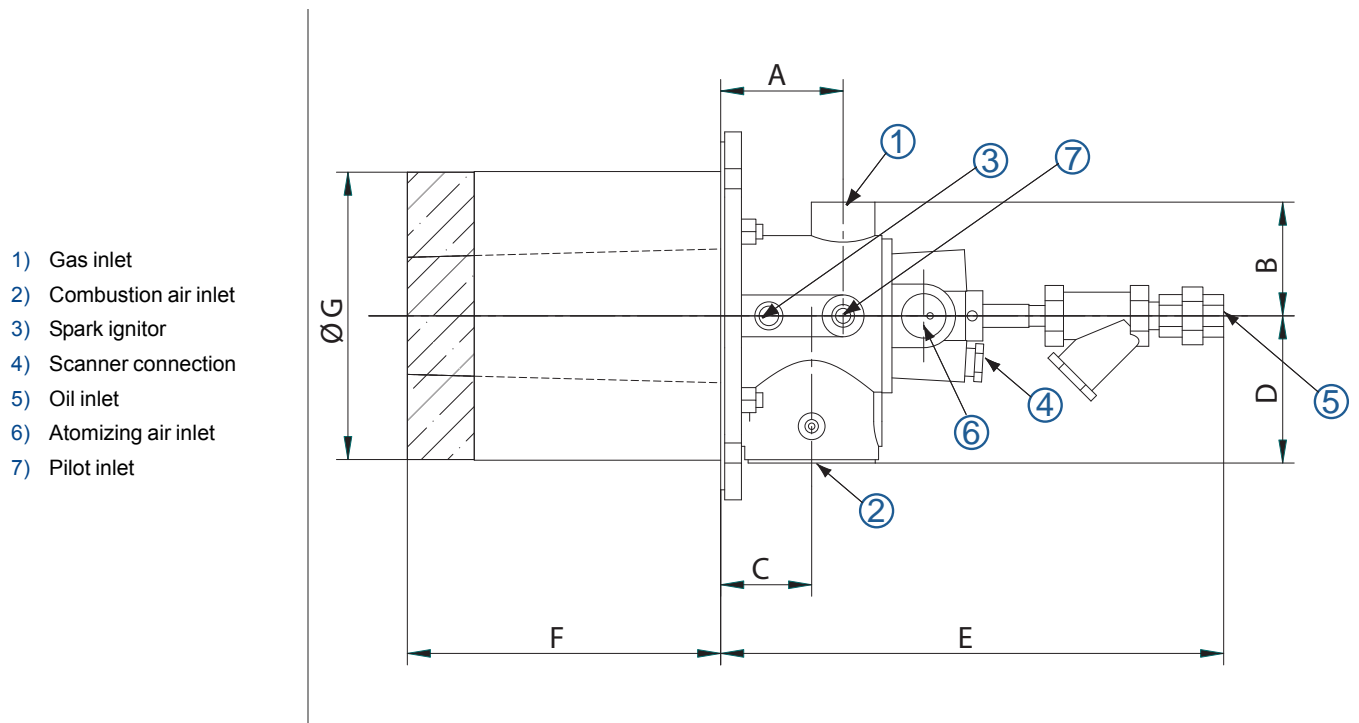
Dimensions in inches unless stated otherwise													
Gas inlet (1)		Comb.air inlet (1)		A	B	C	D	E	F		ØG		Weight (lbs) (2)
ANSI	ISO	ANSI	ISO						std. block	sleeve (opt.)	block	sleeve (opt.)	
3" NPT	Rp 3"	6" NPT	Rp 6"	15.5	6.56	6.31	7.75	18.25	14.25	12.5	16.0	8.38	275

(1) Gas and air inlet are available with threaded connections or with welding flanges (not included).

(2) Weights are for burner with standard block. Burners with long block or stainless steel sleeve might differ slightly.

KINEMAX® Series C - size 2

Gas/oil burner



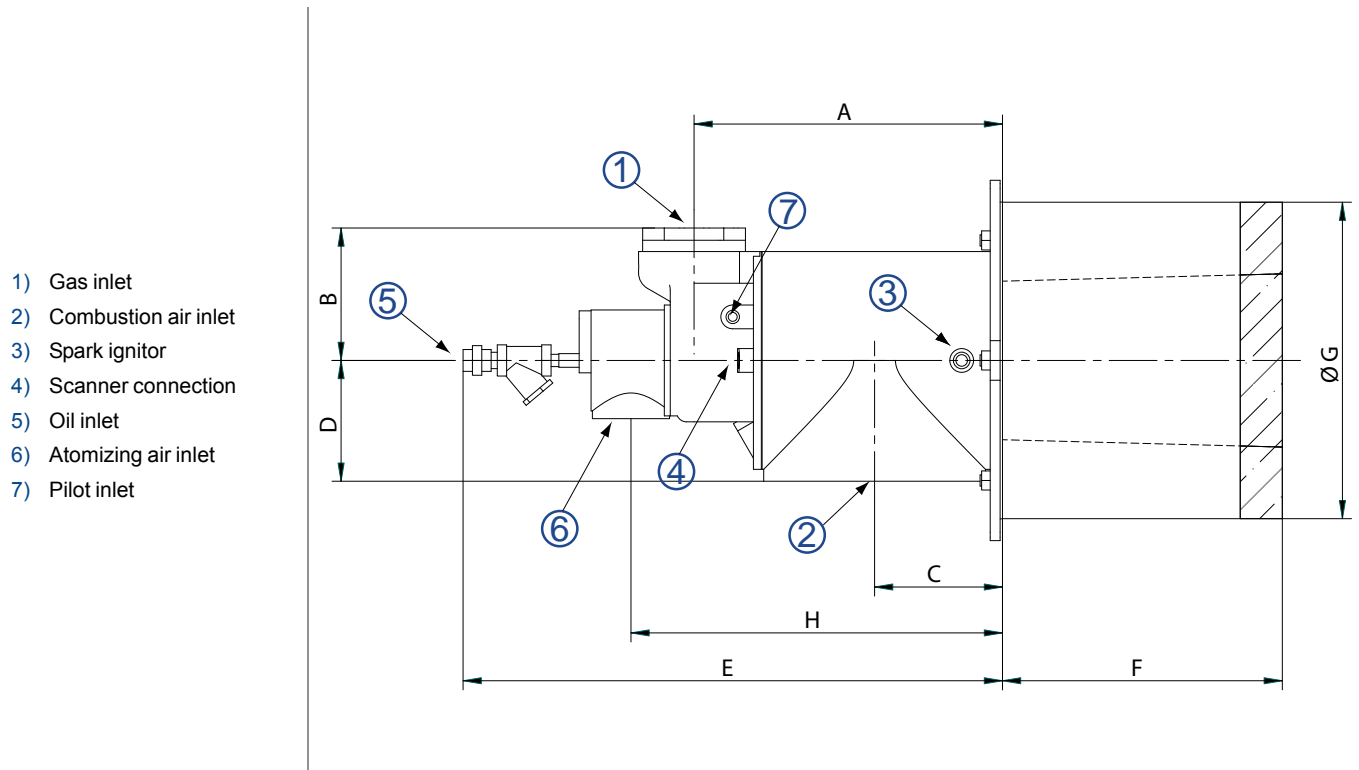
Dimensions in inches unless stated otherwise																
Gas inlet		Comb.air inlet		Atom. Air inlet		Oil inlet		A	B	C	D	E (1)	F		ØG	Weight (lbs) (2)
ANSI	ISO	ANSI	ISO	ANSI	ISO	ANSI	ISO						std block	long block		
1" NPT	Rp 1"	2" NPT	Rp 2"	1" NPT	Rp 1"	1/4" NPT	Rp 1/4"	3.7	3.38	2.7	4.3	13.7	9.2	13.5	8.6	90

(1) Add 7 in. for clearance of oil gun.

(2) Weight is for burner with standard block. Burner with long block might differ slightly.

KINEMAX® Series C - size 6

Gas/oil burner



Dimensions in inches unless stated otherwise																		
Gas inlet (1)		Comb.air inlet (1)		Atom. Air inlet		Oil inlet		A	B	C	D	E (2)	F		ØG		H	Weight (lbs)(3)
ANSI	ISO	ANSI	ISO	ANSI	ISO	ANSI	ISO						std. block	sleeve	block	sleeve		
3" NPT	Rp 3"	6" NPT	Rp 6"	2" NPT	Rp 2"	3/8" NPT	Rp 3/8"	15.5	7.7	6.2	7.7	27.0	14	12.5	16.0	8.3	18.8	310

- (1) Gas and air inlet are available with threaded connections or with welding flanges (not included).
- (2) Add 20 in. for clearance of oil gun.
- (3) Weight is for burner with standard block. Burner with sleeve might differ slightly.

Read "Specifications of KINEMAX® burners" for more detailed information on KINEMAX® burners.