

# KINEDIZER®

## High capacity low NO<sub>x</sub> gas burners



- **Field proven low emissions.** State-of-the-art Low NO<sub>x</sub> firing - adjustable for application flexibility.
- **Rugged design** for oxidizers, process heaters, kilns, furnaces, dryers, waste incineration and other low and high temperature applications.
- Available in a **wide range of capacities, each** with turndown as high as 40:1.
- **Nozzle mixing** design.
- Burns **natural gas, propane** or other fuel gases.
- Provides **excellent stirring and mixing** with its medium velocity exhaust.
- Accepts **preheated and vitiated combustion air.**
- Can be used with cross velocities up to 15 m/s.

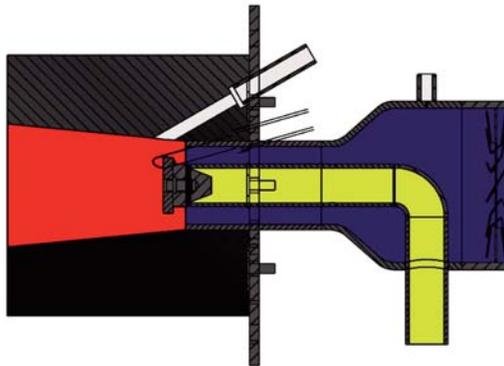
## Product description

The KINEDIZER® burner is a nozzle-mixing medium-velocity design. Using advanced mixing technology, the burner produces low emissions with very little excess air. Ruggedly built with a reinforced refractory block and steel burner body and nozzle, it burns natural gas, propane or other fuels. Combustion air is supplied with an external blower. Accurate air and fuel modulation can be accomplished by the MAXON MICRO-RATIO® valve or SMARTLINK® technology.

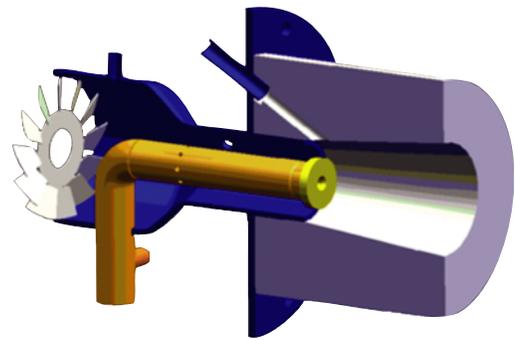
Combustion air can range from 21 % down to 17 % O<sub>2</sub> if preheated and from ambient temperature up to 350 °C (max. 425 °C on request). Maximum chamber temperature is 1100 °C, with any cross velocity up to 15 m/s.

The KINEDIZER® burner's maximum capacity can be boosted by 20 % simply by supplying higher combustion air and gas pressures.

Contact MAXON for correct application details.



Principle of burner operation



Cross sectional view of KINEDIZER® burner

## Available KINEDIZER® sizes

Typical burner data								
Fuel : natural gas at 15 °C with 10.9 kWh/Nm <sup>3</sup> (HHV) - sg = 0.6 [1]								
Combustion air : 15 °C - 21 % O <sub>2</sub> - 50 % Humidity - sg = 1.0 [1]								
Stated pressures are indicative. Actual pressures are a function of air humidity, altitude, type of fuel and gas quality								
KINEDIZER® size		0.5M	2.5M	5M	9M	18M	27M	40M
Max. capacity @ n=1,3	kW HHV	145	730	1450	2650	5300	7900	11700
Turndown		1:10	1:15	1:40	1:40	1:40	1:40	1:30
Air flow at max. capacity	m <sup>3</sup> (st)/h	182	918	1820	3330	6660	9930	14710
Air turndown		1:6	1:9	1:16	1:16	1:23	1:23	1:14
Advised pilot capacity	kW HHV	30	100	50	100	150	300	750
Comb. air pressure @ inlet [2]	mbar	90	90	90	90	90	90	70
Nat. gas inlet pressure diff.	mbar	120	155	220	210	280	280	170

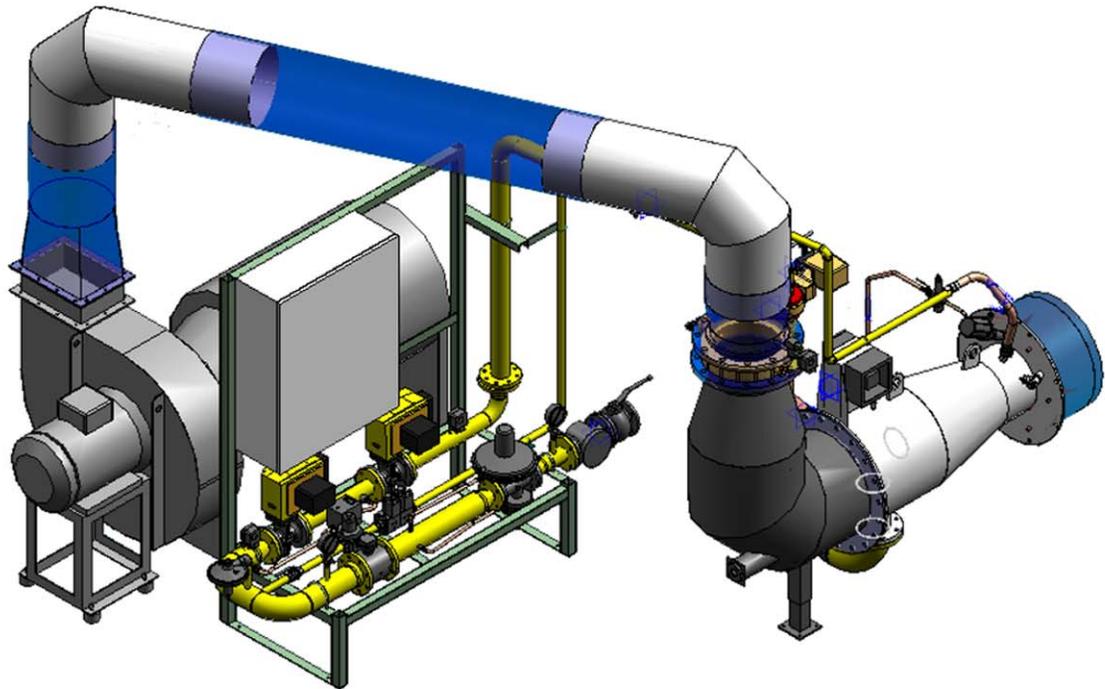
[1] sg (specific gravity) = relative density to air (density air = 1.293 kg/m<sup>3</sup>(st)).

[2] Combustion air pressure required at full capacity, relative to process.

Add 5% safety margin + piping & control valve pressure drops for blower sizing.

## Applications

KINEDIZER® burners may be applied to a variety of applications for low to ultra-low emissions. The rugged design of the KINEDIZER® burner is ideal for oxidizers and incinerators, process heaters, kilns, furnaces, and other high-temperature applications.

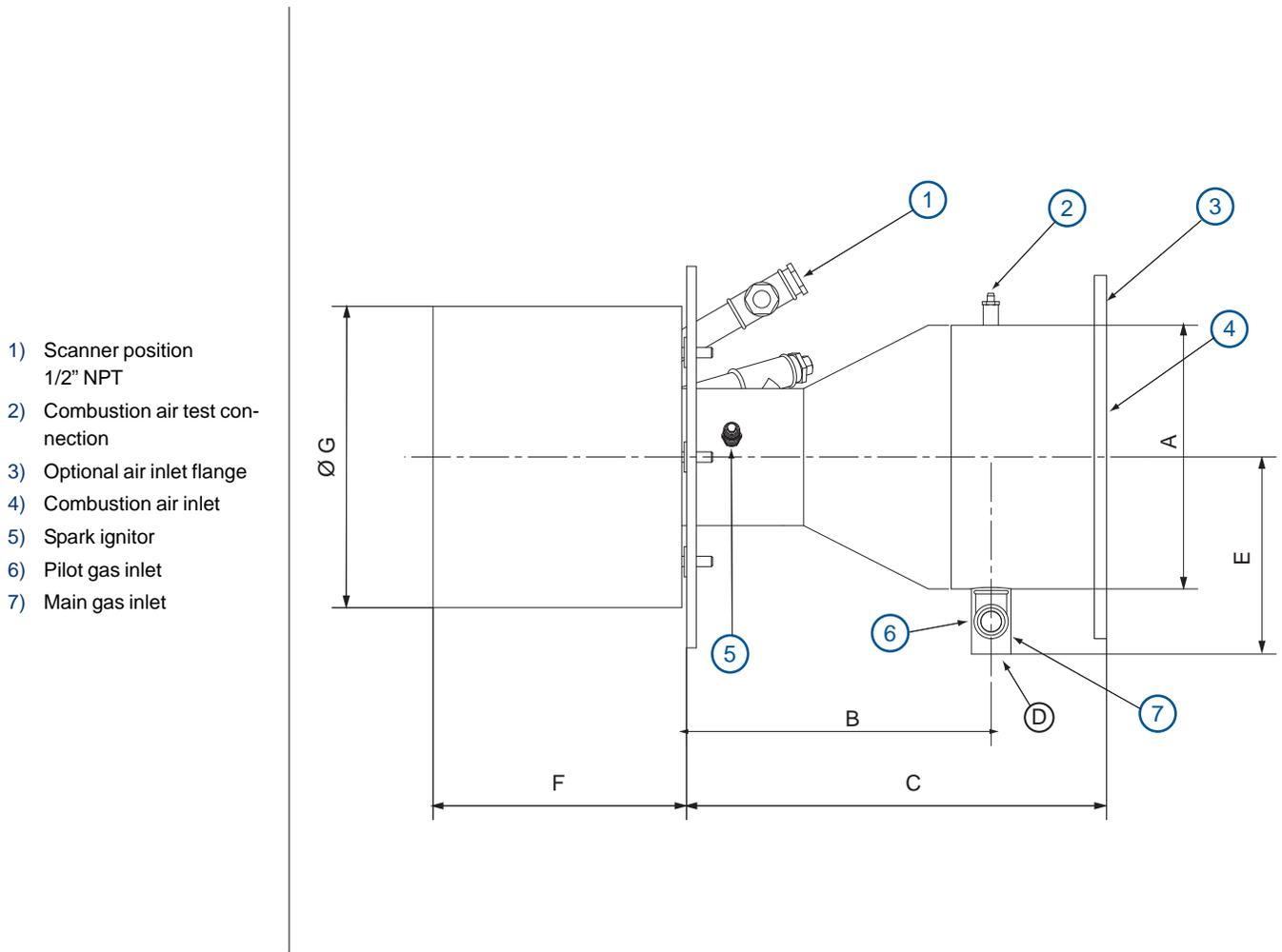


KINEDIZER® 40M burner with pipe-train, control panel and combustion air blower.

## Dimensions and weights

### KINEDIZER® 0.5M and 2.5M - ANSI

0.5M and 2.5M are all exclusive NPT / ANSI KINEDIZER® burners

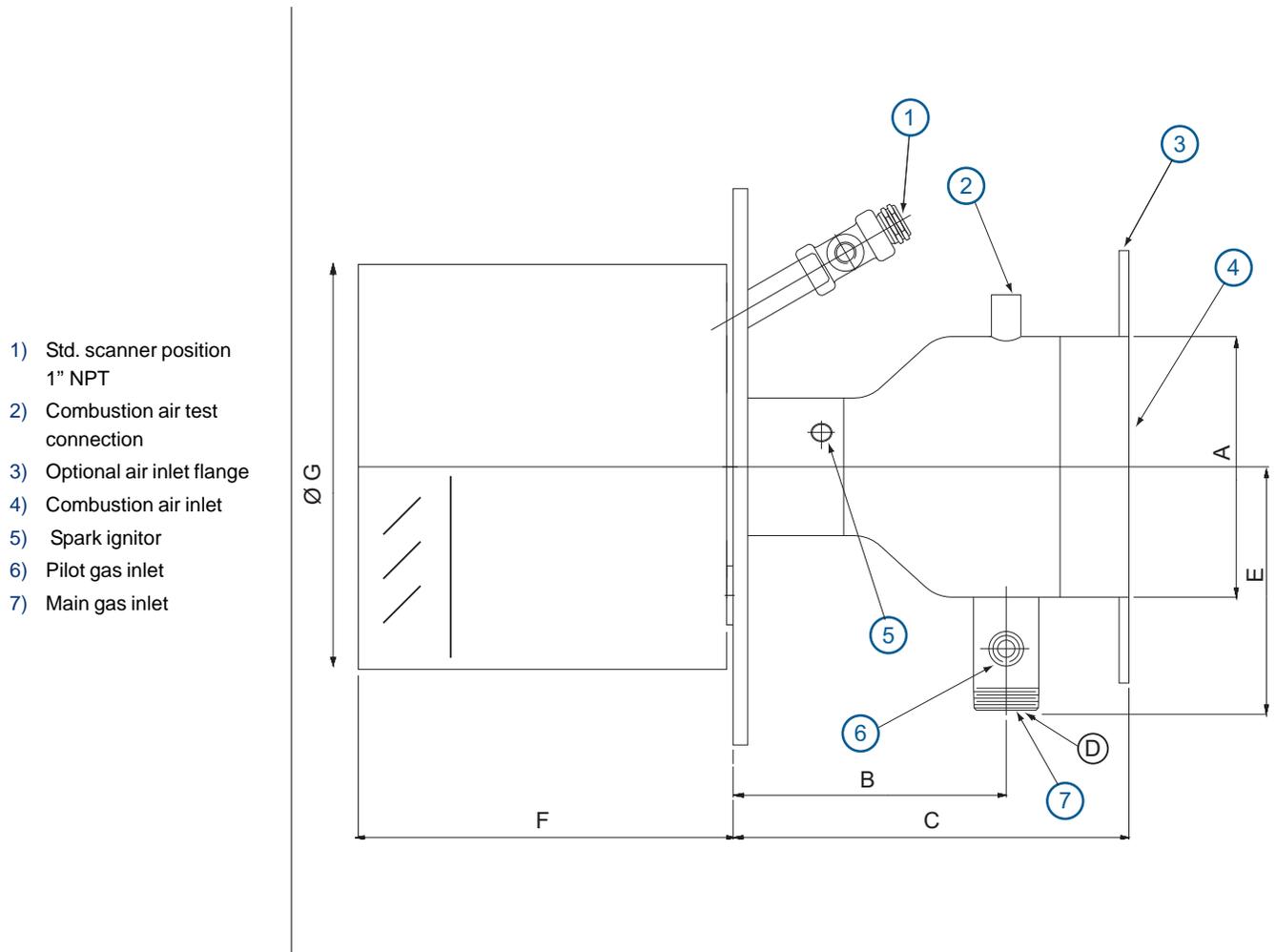


- 1) Scanner position  
1/2" NPT
- 2) Combustion air test connection
- 3) Optional air inlet flange
- 4) Combustion air inlet
- 5) Spark ignitor
- 6) Pilot gas inlet
- 7) Main gas inlet

Dimensions in mm unless stated otherwise								
Size	A [1] air conn.	B	C	D gas conn.	E	F	G ø	Weight kg
0.5M	3" ANSI	145	200	3/8" NPT	119	244	217	30
2.5M	6" ANSI	176	269	3/8" NPT	157	244	265	45

[1] Available with SCH10/SCH40 pipe air connection or with ANSI 150 lbs flange connection.

KINEDIZER® 5M - 9M - 18M - 27M and 40M - ANSI



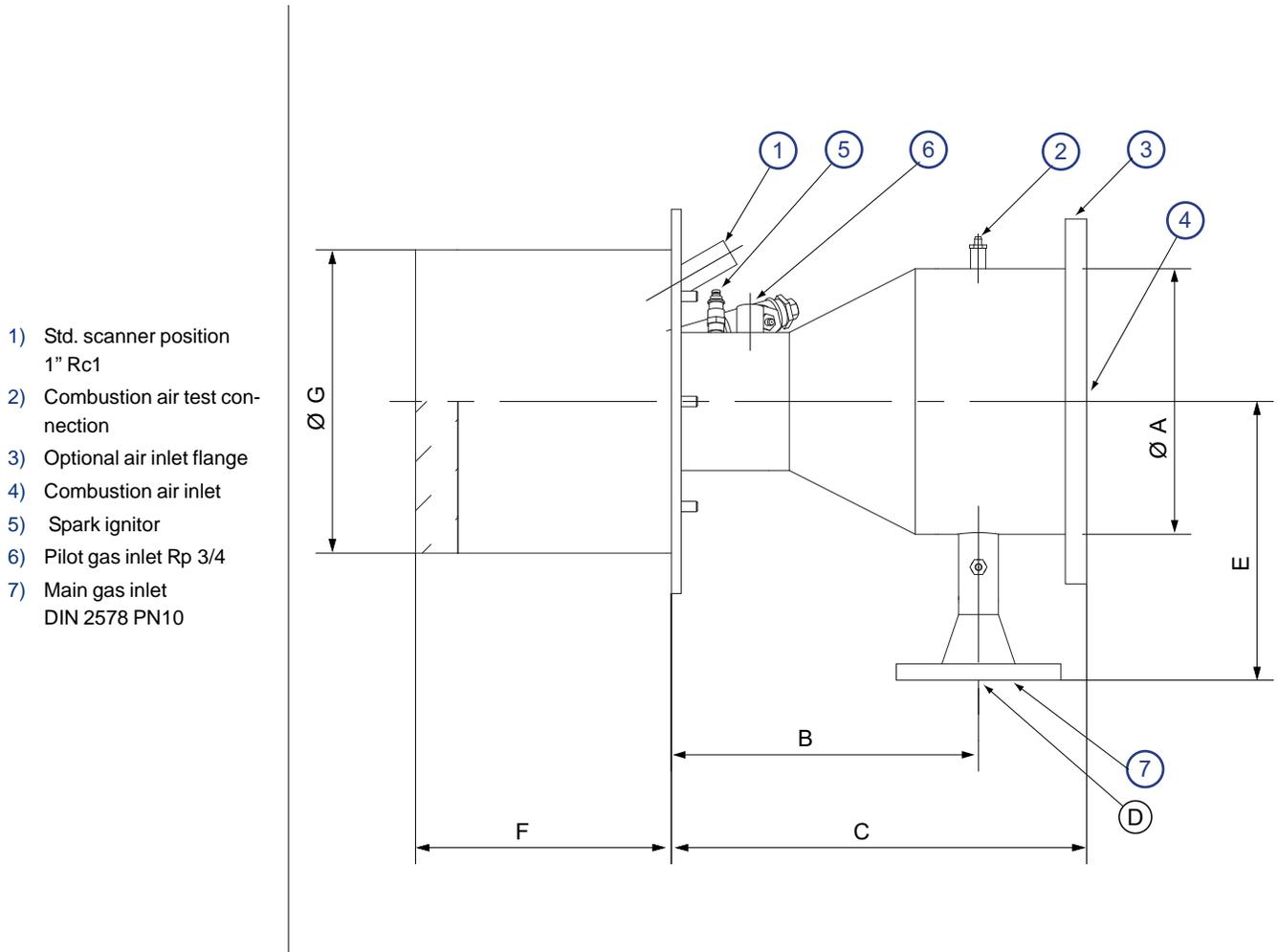
- 1) Std. scanner position  
1" NPT
- 2) Combustion air test  
connection
- 3) Optional air inlet flange
- 4) Combustion air inlet
- 5) Spark ignitor
- 6) Pilot gas inlet
- 7) Main gas inlet

Dimensions in mm unless stated otherwise									
Burner size	A [1] air conn.		B	C	D gas conn.	E	F	G ø	Weight kg
5M	8" ANSI		285	383	3/8" NPT	187	244	329	75
9M	324	12"	374	502	3"	340	311	370	120
18M	324	12"	466	628	3"	305	311	421	150
27M	457	18"	606	755	4"	415	311	474	300
40M	559	22"	942	1225	6"	419	308	607	450

[1] Available with SCH10/SCH40 pipe air connection or with ANSI 150 lbs flange connection.

**KINEDIZER® 9M - 18M - 27M and 40M - ISO**

9M - 18M - 27M - 40M KINEDIZER® have different versions for the European market with flanged air and gas inlet to comply with CE requirements for fuel gas piping.



- 1) Std. scanner position  
1" Rc1
- 2) Combustion air test connection
- 3) Optional air inlet flange
- 4) Combustion air inlet
- 5) Spark ignitor
- 6) Pilot gas inlet Rp 3/4
- 7) Main gas inlet  
DIN 2578 PN10

Dimensions in mm unless stated otherwise									
Burner size	A [1] air conn.		B	C	D [1] gas conn.	E	F	G ø	Weight kg
9M	324	DN300	374	505	DN80	340	311	370	120
18M	324	DN300	417	582	DN80	305	311	421	150
27M	457	18"ANSI	603	759	DN100	415	311	471	300
40M	559	22"	941	1228	DN150	419	311	608	450

[1] DN80, DN100 and DN150 refer to PN10 (ISO7005) flanges. 18" ANSI will accept a 150 lbs ANSI B16.9 inlet flange. For the 18" and 22" air inlet, an optional companion flange can be supplied.

## Typical emissions

The KINEDIZER® burner is capable of low NO<sub>x</sub> when given excess air, typically 25-30 % at high fire.

The same burner, when adjusted for on-ratio operation, will give low CO and high thermal efficiency. With flue gas recirculation, the emissions and efficiency can be further improved.

*Read "Specifications of KINEDIZER® gas burners" for more detailed information on KINEDIZER® burners.*