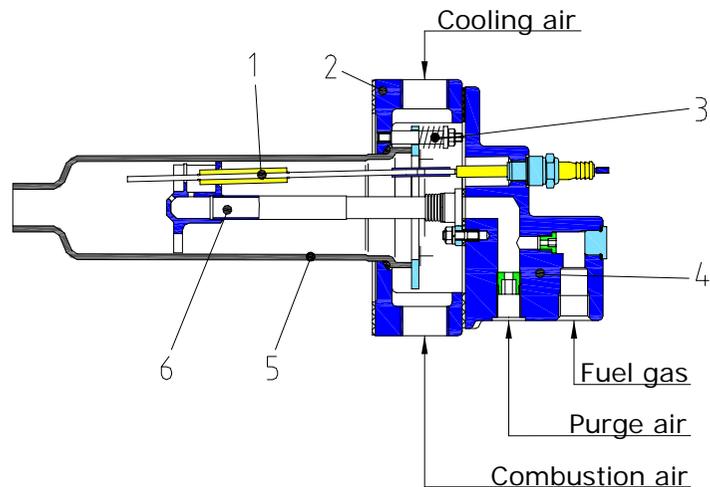


High-Velocity Burner NOXMAT® HGBE

- direct and indirect heating -

Constructive design / Mode of function

- 1 ... Electrode
- 2 ... Air part
- 3 ... Retainer
- 4 ... Gas part
- 5 ... Ceramic burner tube
- 6 ... Gas lance with swirl plate



The **burner** is comprised of a two-part burner head, burner tube, gas lance, and electrode.

Combustion air is flowing via connecting line through air part into the burner tube and, further, through swirl plate into combustion chamber. The swirl plate is to swirl the combustion air to achieve intensive mixing with fuel gas in the combustion chamber.

Fuel gas is flowing via connecting line through gas part and gas lance to swirl plate. The gas flow is dividing there. The major portion of fuel gas flows into the combustion chamber and is mixed there with the intensively swirled combustion air. The minor fuel-gas portion is led into the ignition chamber of swirl plate and ignited there by means of high-voltage ignition spark.

Exactly matched conditions in the ignition chamber ensure eased ignition and start-up or burner (cold start). The flame gases escape with high velocity from the burner tube.

Waste gas of burner is exhausted through a separate waste-gas exhaust line.

Purge air is supplied to fuel gas in the gas part through a purge-air nozzle in metered quantities to achieve excellent conditions for ignition. Further, said purge air is purging the gas lance to remove residual fuel gas in case of burner shutdown. So, any afterburning is precluded.

NOXMAT High-Velocity Burners feature the possibility of cooling-air connection and can be equipped therewith on request. **Cooling air** is flowing from said connection via air part directly through burner tube into radiant tube or into the furnace chamber.

Flame monitoring takes place as a function of process via flame monitoring current of an UV-sensor or via ionization current of electrode, concurrently acting as ignition and monitoring electrode.