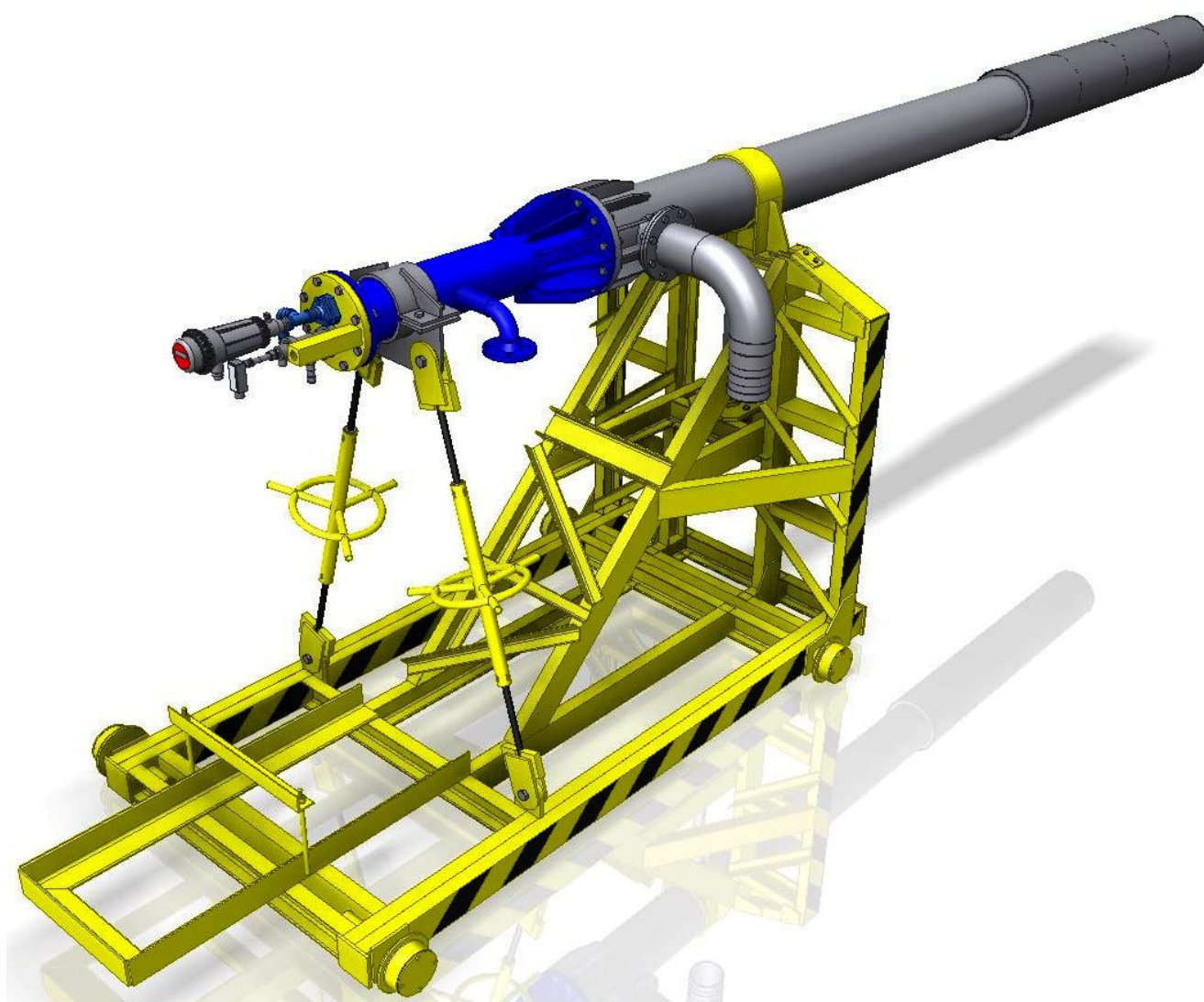


# ROTARY FURNACE BURNER PPO-5000



## DATA SHEET

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### Technical Description of the Burner

The PPO-5000 burner consists of three steel pipes arranged concentrically, equipped with nozzles, connection ports, and fittings, all mounted on a supporting structure together with lifting and tilting mechanisms.

The supporting structure of the burner consists of:

- ✓ Rail trolley
- ✓ Track system
- ✓ Two supports forming the bed of the gas burner – front and rear
- ✓ Lifting and lowering mechanism with a manually driven screw
- ✓ Tilting and rotating mechanism of the burner body with two turnbuckles
- ✓ Counterweight on the rear axle of the rail trolley

The burner system with its supporting structure is designed for installation along the longitudinal axis of the rotary furnace, enabling its mechanical insertion and withdrawal from the furnace head.

The burner is supplied with gas and combustion air through flexible hoses of appropriately selected length, allowing movement along the furnace axis, lifting, and tilting. Gas is delivered to the burner from an associated assembly containing the necessary safety, control, and regulation fittings for both remote and manual operation.

The PPO-5000 burner is supplied with combustion air at ambient temperature in an amount up to 25% of the stoichiometric requirement. The remaining air necessary for complete gas combustion and proper chemical reactions within the fired material layer is drawn by the flame from the furnace atmosphere, created by induced draft using an exhaust fan.

The combustion air installation consists of: metal piping, fan, pressure sensor, control fittings.

A portion of the air transported by the fan is also supplied to the cooling system of the burner gas nozzle, the flame scanner, and the igniter.

The PPO-5000 burner is equipped with an automation and interlock system enabling:

- ✓ remote ignition of the burner using the high-energy igniter MAXFIRE II, executed according to a defined control sequence,
- ✓ monitoring of the ignition process and flame presence by the INSIGHT II photoelectric control system,
- ✓ monitoring of burner operating parameters and safety interlocks required by the PN-EN 746-2 standard.

### **PPO Burner Technical Data**

Type of burner by gas combustion method:	diffusion – long-flame
Flame shape:	axial type
Flame direction adjustment:	by means of the lifting mechanism and two turnbuckles at the rear support
Base fuel:	natural gas E (GZ -50)
Gas pressure at burner inlet:	c.a. 2 bar
Burner capacity:	530 Nm <sup>3</sup> /h
Nominal thermal power:	5 MW
Burner capacity during ignition phase (automatic mode):	300 Nm <sup>3</sup> /h
Excess air ratio $\lambda$ during ignition phase:	0,5
Power adjustment range:	1÷4

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Type of control:	continuous
Regulating element:	valve with electric actuator
Control system:	programmable controller
Combustion air supply:	fan
Combustion air pressure:	12 kPa
Combustion air temperature:	ambient temperature
Main burner ignition:	gas ignition burner MAXFIRE 10 EX
Ignition of the pilot burner:	High-energy electric igniter
Flame monitoring:	Photoelectric – flame scanner INSIGHT 95 EX

### Applications

Rotary kilns for thermal processing of raw materials in particular for the treatment and neutralization of zinc-bearing wastes in Waelz kilns.

### Burner dimensions

Burner dimensions illustrated in the drawing on the following page.

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