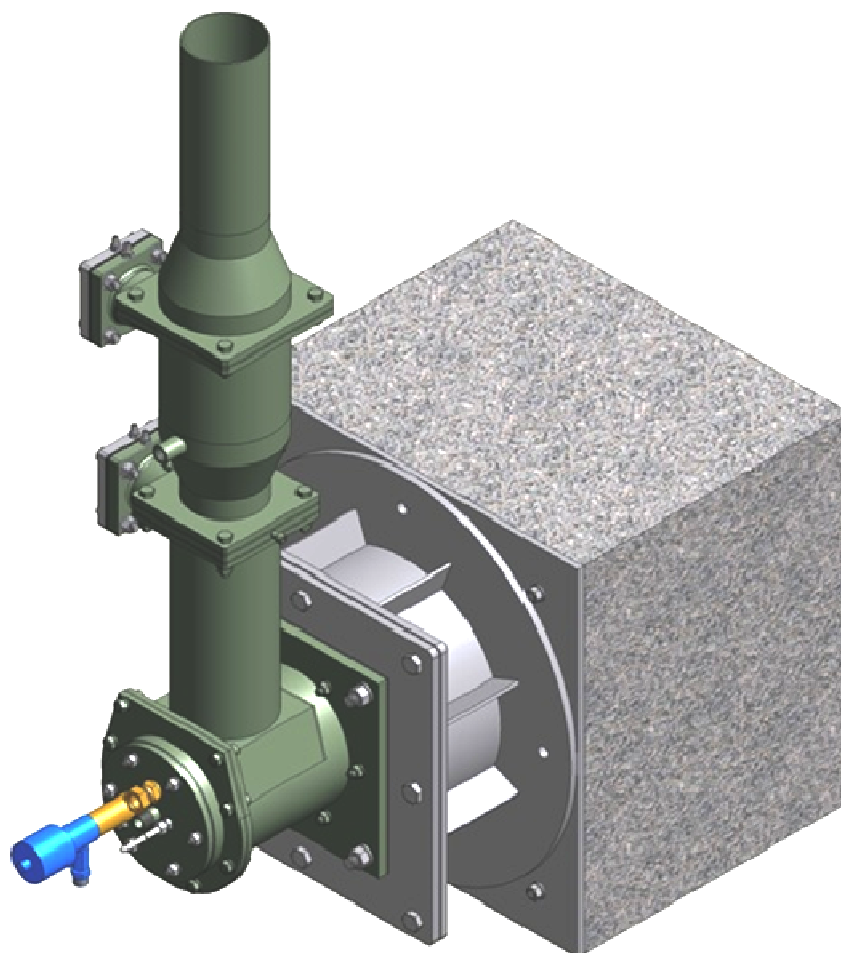


RECUPERATIVE BURNER

RPG TP 1400

120/250/600



DATA SHEET

This documentation contains information proprietary to Przedsiębiorstwo Techniki Ciepłej PIECOSERWIS Sp. z o.o. It should be used responsibly and solely for the purposes for which it has been prepared. The documentation is of an informational nature regarding the company's potential and capabilities. It may not be reproduced or used in any way, in whole or in part, without the authorization of PTC PIECOSERWIS Sp. z o.o.



Description and Technical Characteristics of the RPG Burner

The RPG TP 1400 burner is a recuperative burner designed for direct gas combustion in the heating chambers of furnaces with temperatures up to 1400 °C. Depending on the operating conditions of the furnace, the applied recuperation system provides a significant reduction in gas consumption compared to conventional burners supplied with ambient-temperature air.

The nominal thermal power of the burner, for a given gas pressure, is determined by the hydraulic resistance of the gas nozzle and the flame outlet block. As the temperature of the combustion air increases, the thermal power of the burner also rises.

The combustion air temperature, heated in the burner's recuperator for a given heat-exchange surface, is influenced by both the temperature and the amount of flue gases extracted from the combustion chamber.

Technical Data

Type of burner by gas combustion method:	diffusion
Maximum th. power calculated from the calorific value of gas:	from 80 kW do 750 kW
Power adjustment range:	depend on furnace temperature
Type of control:	continuous or "high", "low"
Gas type:	natural gas E group
Inlet gas pressure:	10÷15 kPa

Combustion air inlet pressure:	80 ÷ 120 mbar
Injection air inlet pressure:	80 ÷ 120 mbar
Combustion air preheating temperature:	do 850°C
Ignition:	spark
Flame monitoring:	UV detector

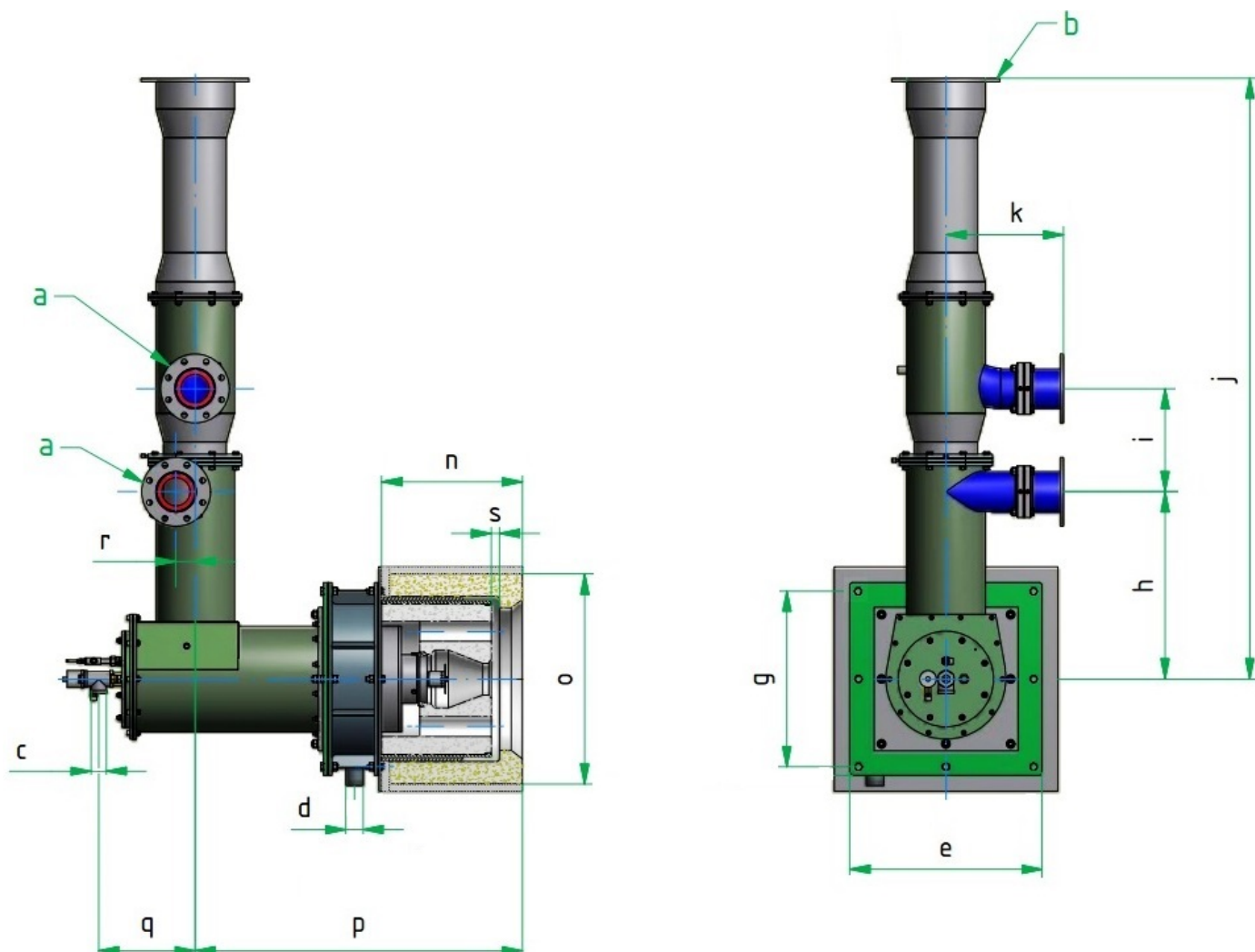
Materials

- ✓ Body: boiler steel – surface coated with paint resistant up to 650°C
- ✓ Heat exchanger: heat-resistant steel
- ✓ Gas nozzle: heat-resistant steel
- ✓ Injector: stainless steel

Applications

- ✓ Heat treatment furnaces with fibrous lining or ceramic refractory – periodic or continuous operation in temperature 1400°C
- ✓ Heating furnaces with fibrous lining or ceramic refractory – periodic or continuous operation
- ✓ Periodic furnaces for firing ceramic products

RPG TP 1400 Burner Dimensions



Burner type	Dimensions, mm																Mass kg**
	a*	b*	c	d	e	g	h	i	j	k	n	o	p	q	r	s	
RPG TP 1400-120	65	150	1/2"	1"	456	408	358	327	***	280	450	550	802	200	32	19	155
RPG TP 1400-250	80	150	3/4"	1 1/2"	524	464	405	331	***	300	389	525	963	218	40	20	228
RPG TP 1400-600	125	125	6/4"	650	670	610	652	358	***	410	500	730	965	340	67	28	450

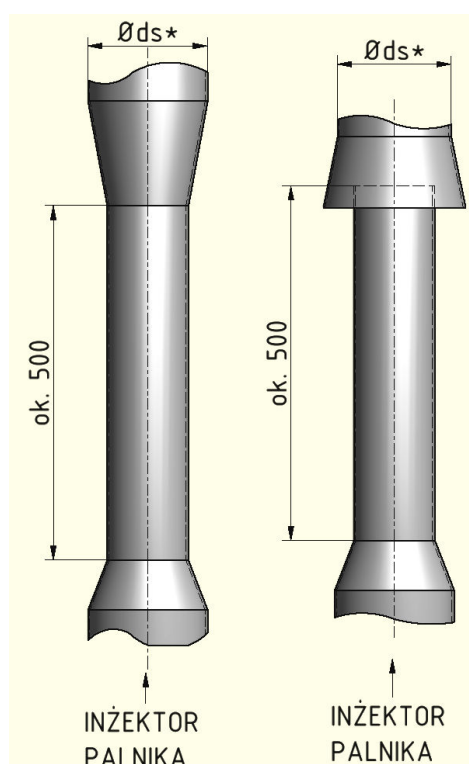
a*, b*: nominal diameter of the flange wg PN-EN 1092

** burner mass with heat resistant concrete block

*** dimension determined by installation conditions

Flue gas discharge from the RPG burner

The flue gas flow through the burner is forced by means of an injector installed just above the outlet of the recuperator channel. The air jet, discharged at high velocity from the injector nozzle, entrains flue gases from the furnace chamber, creating a negative pressure in the opening of the ceramic block. After mixing with the injector air, the flue gases are conveyed into the outlet pipe, which must be connected to the flue gas discharge installation leading to the chimney, as shown in the drawing below.



* selection of the flue gas discharge pipe diameter ($\varnothing ds$) must be consulted each time with PTC PIECOSERWIS.