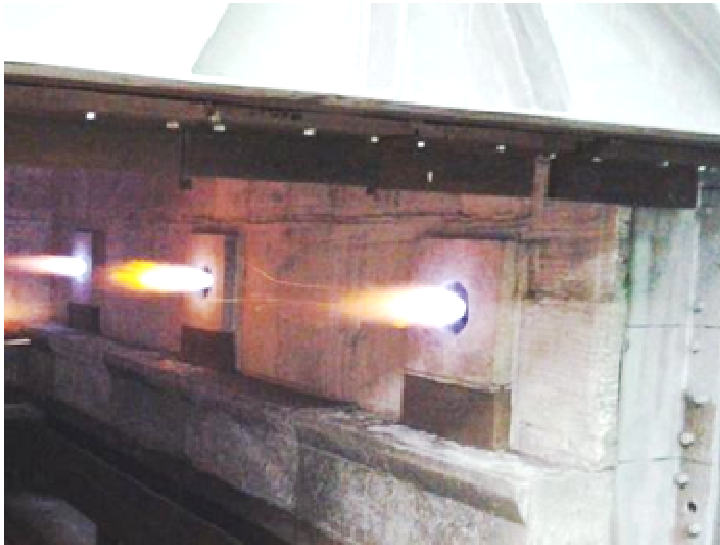


RECUPERATIVE BURNER

RPG TP 1000
80/120/250/600



DATA SHEET



Description and Technical Characteristics of the RPG Burner

The RPG TP 1050 burner is a recuperative burner designed for direct gas combustion in the heating chambers of furnaces with temperatures up to 1050°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
Max. thermal power calculated from the calorific value of gas:	from 80 kW do 650 kW
Power adjustment range:	1÷10
Type of control:	continuous or "high", "low"
Gas type:	natural gas E group
Gas inlet pressure:	10÷15 kPa
Combustion air inlet pressure:	80 ÷120 mbar

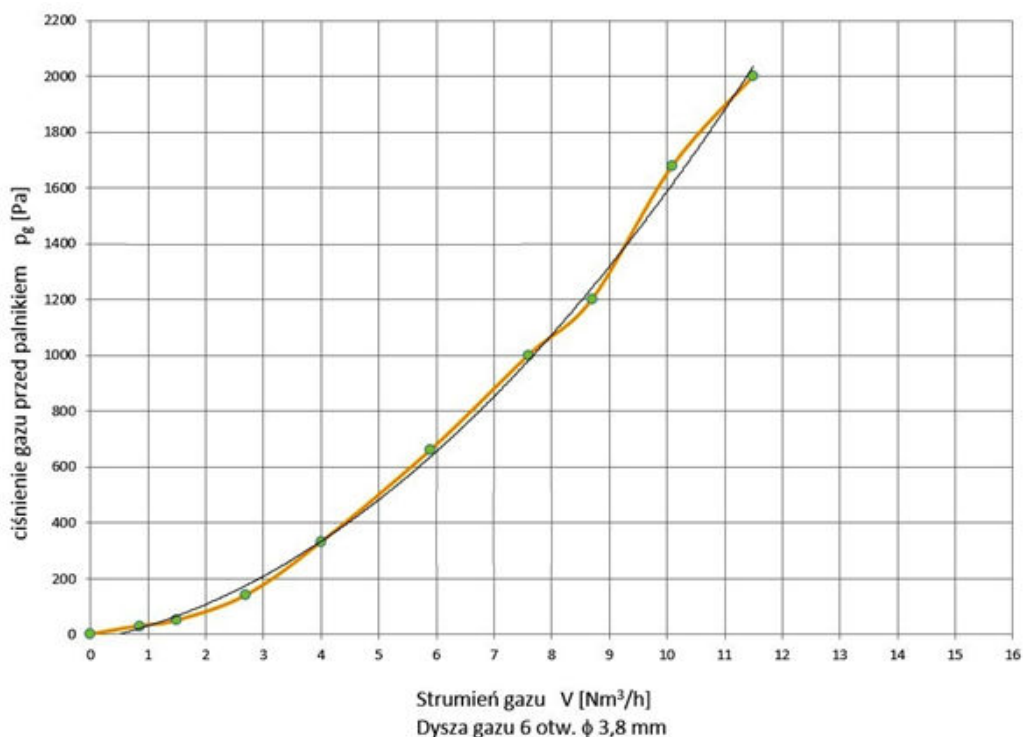
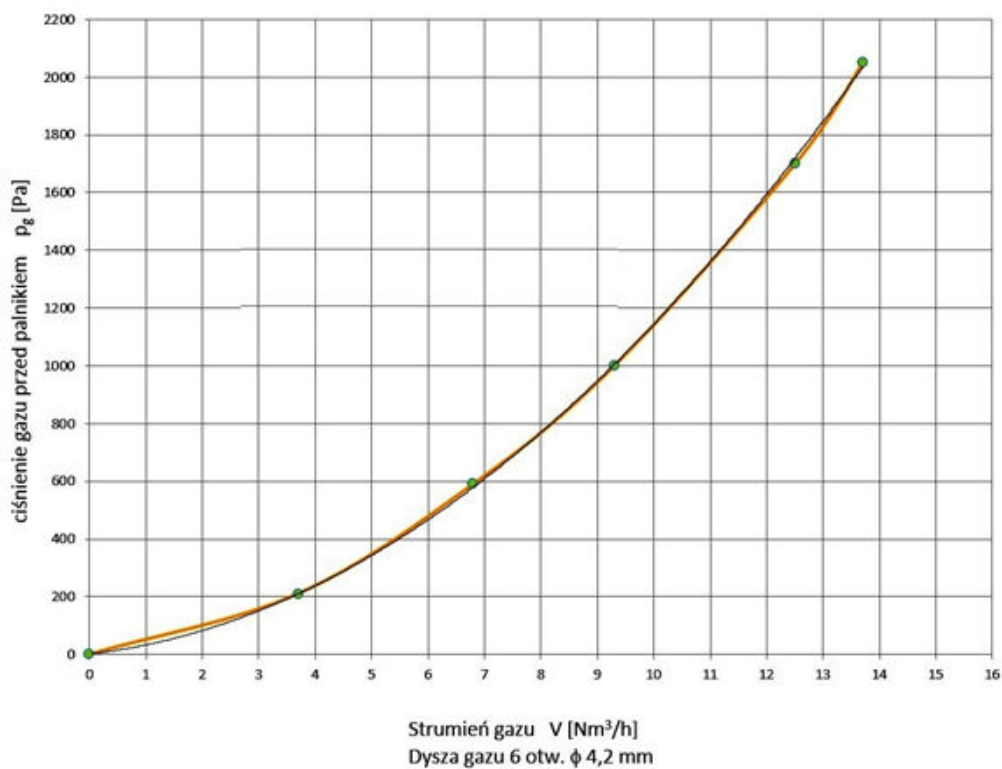
Injection air inlet pressure:	80 ÷ 120 mbar
Combustion air preheating temperature:	do 750°C
Ignition:	spark
Flame monitoring:	UV detector

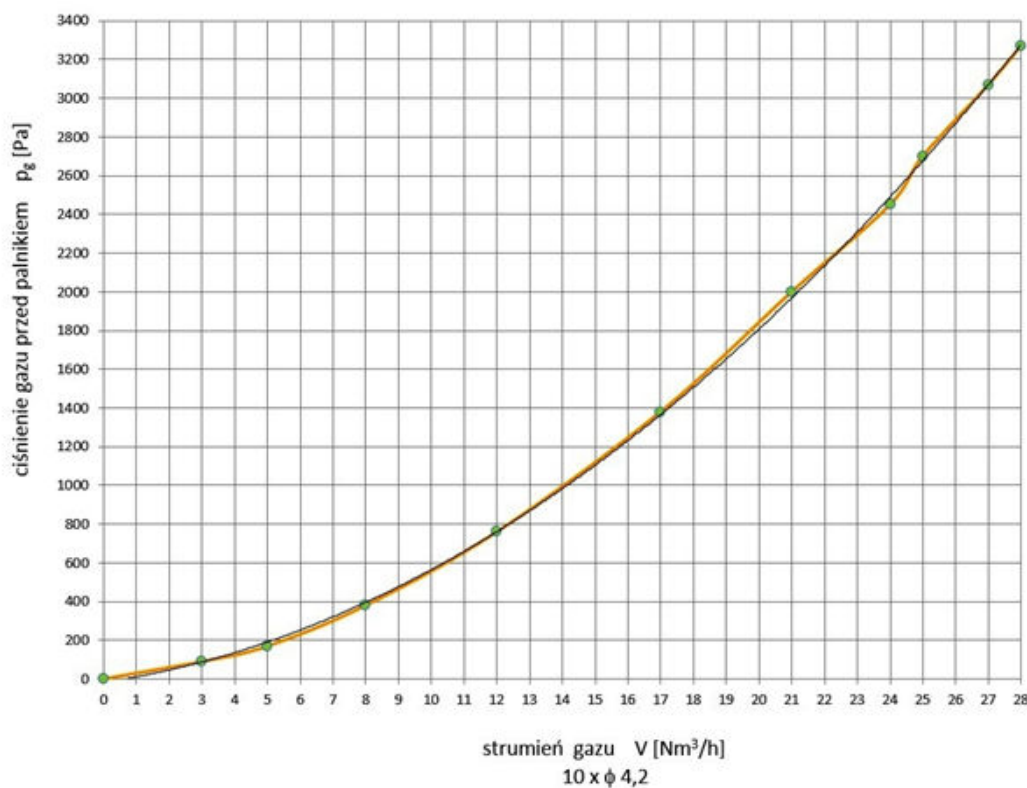
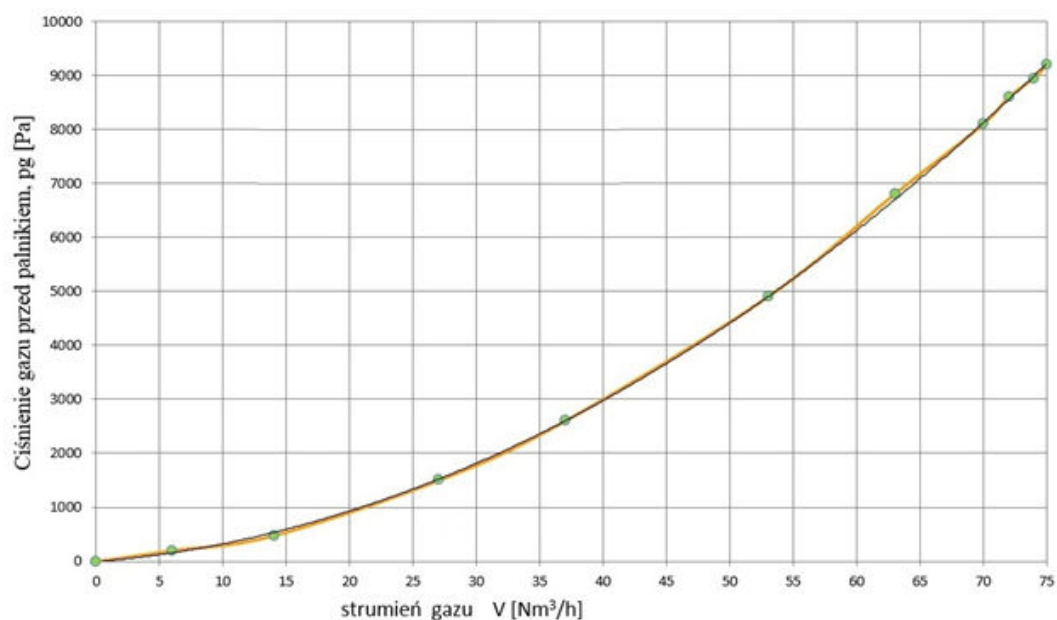
Materials

- ✓ 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

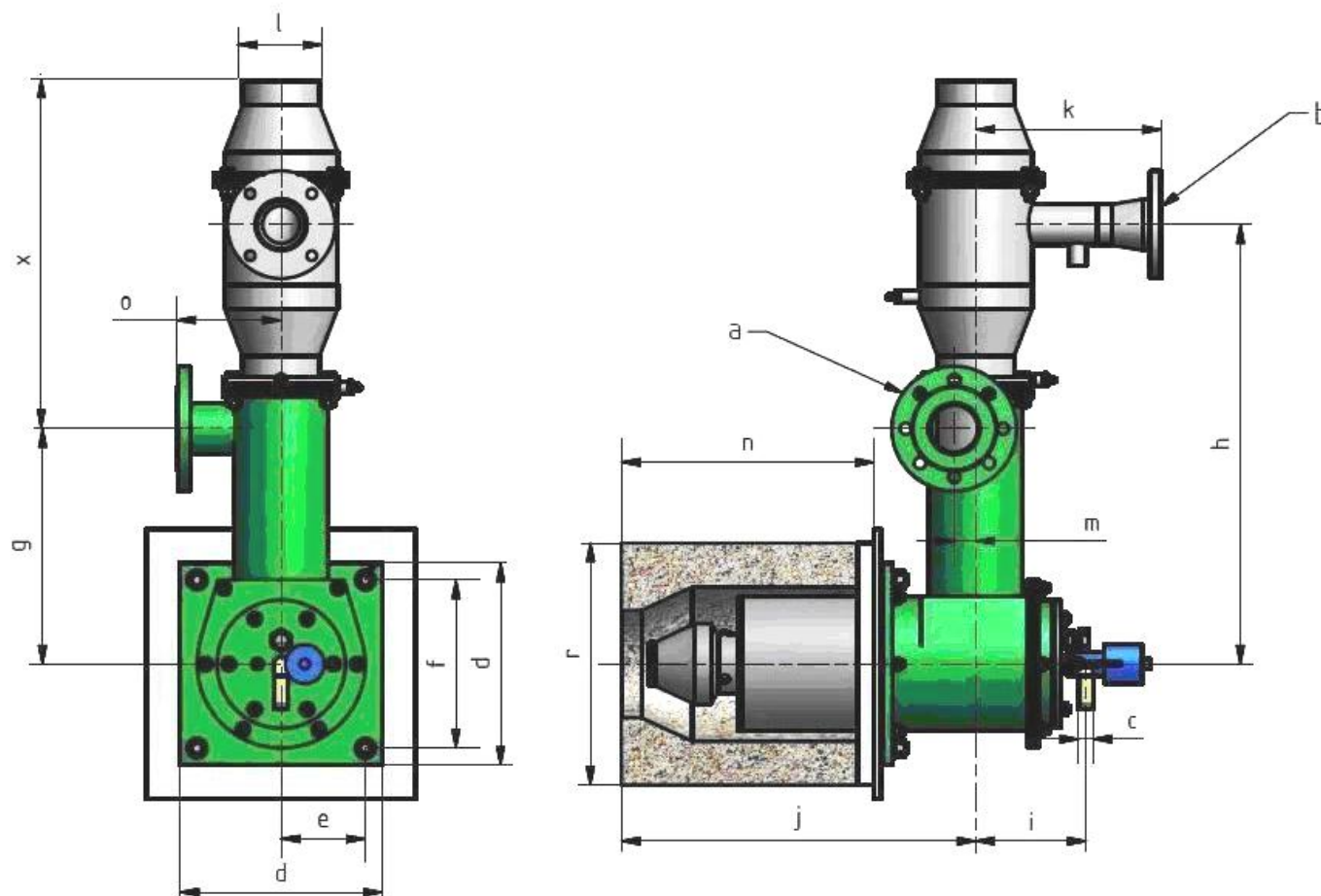
Applications

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

Flow characteristics of the RPG-80 burner**Flow characteristics of the RPG-120 burner**

Flow characteristics of the RPG-250 burner**Flow characteristics of the RPG-600 burner**

RPG Burner Dimensions



Burner type	Dimensions, mm																	Mass kg**
	a*	b*	c	d	e	f	g	h	i	j	k	l	m	n	o	r	x	
RPG - 80	65	65	1/2"	300	202	404	345	640	164	608	177	139,7	32	355	177	310	***	155
RPG - 120	65	65	1/2"	300	202	404	345	640	164	608	177	139,7	32	355	177	310	***	155
RPG - 250	80	80	3/4"	524	232	464	405	736	218	795	139	168,3	40	460	155	390	***	228
RPG - 600	125	125	6/4"	650	300	600	651	1170	337	1031	526	273	67	555	316	540	***	450

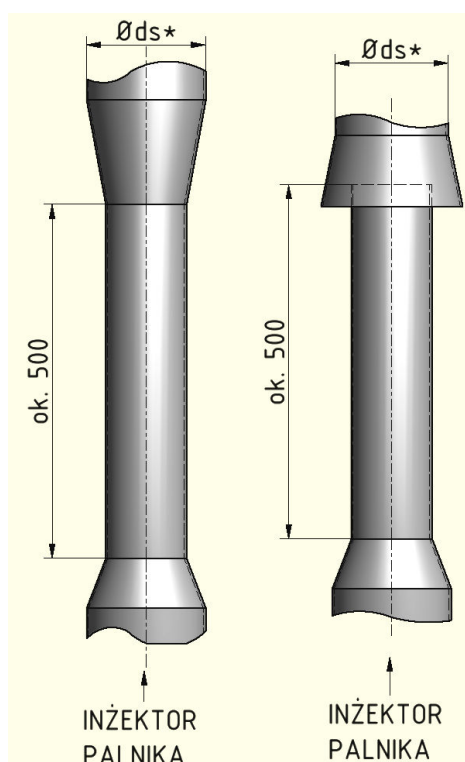
a*, b*: nominal diameter of the flange wg PN-EN 1092

** 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 (ϕ ds) must be consulted each time with PTC PIECOSERWIS.