

## EXHAUST GAS HEAT REGENERATORS FOR GAS-FIRED BOILERS



Heat recovery plant with TPK-1.1-230 regenerator installed behind DE-16-14GM boiler at the boiler house of *Farmak* corporation, Kyiv



Heat recovery plant with convection bank PK-1-102 sh installed behind TVG-4r boiler at the boiler house at 2a Osipovska St., Kyiv

### Areas of Application

The devices are to be used in municipal power engineering system for raising efficiency of boilers due to recovery of exhaust gas heat for warming water for heat-supply systems

### Advantages

As compared with domestic counterparts, these regenerators increase boiler efficiency by 3–10%; recover vaporization heat; are compact and have a low hydraulic resistance; easily serviceable

### Stage of Development. Suggestions for Commercialization

IRL8, TRL5  
Design of heat recovery plants and organization of commercial production

### IPR Protection

IPR1, IPR3

### Specification

Description	Surface condensation heat regenerators TPK (7 types)	Convection banks, PK		
		PK-1-102sh	PK-2-102sh	PK-1-48k
Nominal heat capacity, MW	8–130	240	460	240
Consumption of exhaust gases, kg/s	0.09–1.42	2.47	4.94	1.54
Water consumption, kg/s	1.2–4.2	14.7	29.4	11.1
Aerodynamic resistance, Pa	120–250	215	240	65
Hydraulic resistance, kPa	20–30	5.2	3.2	1.5
Weight, kg	160–650	880	1265	675
Dimensions, mm:				
height	1200–1900	1040	1040	700
length	800–2000	1450	2340	2360
width	300–1600	1240	1240	560
Payback period, years	1–2	1–1,5		

### Contact Information

Alexander I. Chaika, Institute of Engineering Thermophysics of the NAS of Ukraine; +38 044 456 93 81, e-mail: chaika@ittf.kiev.ua