

# The first energy-efficiency turbogenerator unit TurboSphere TGU-15-6-H at the CHP plant in Minsk

Customer: Minsk heating network

Implementation period: 2017-2019



Group of innovative companies “TurboSphere”  
Scientific and Engineering Center “EnergoTech” LLC  
TurboEnergy LLC





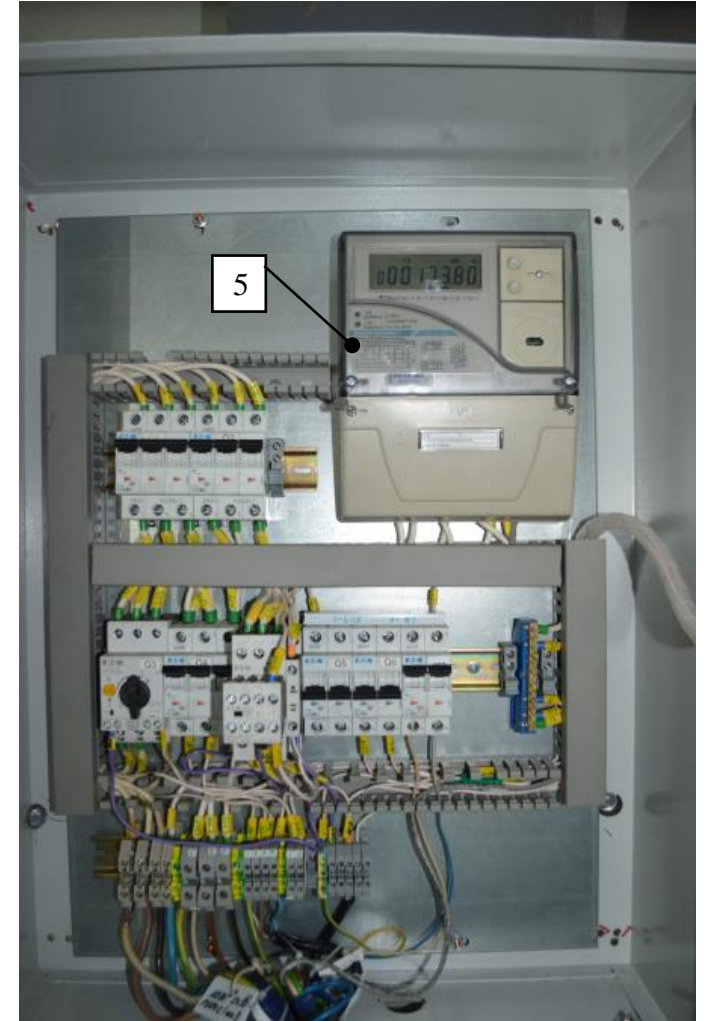
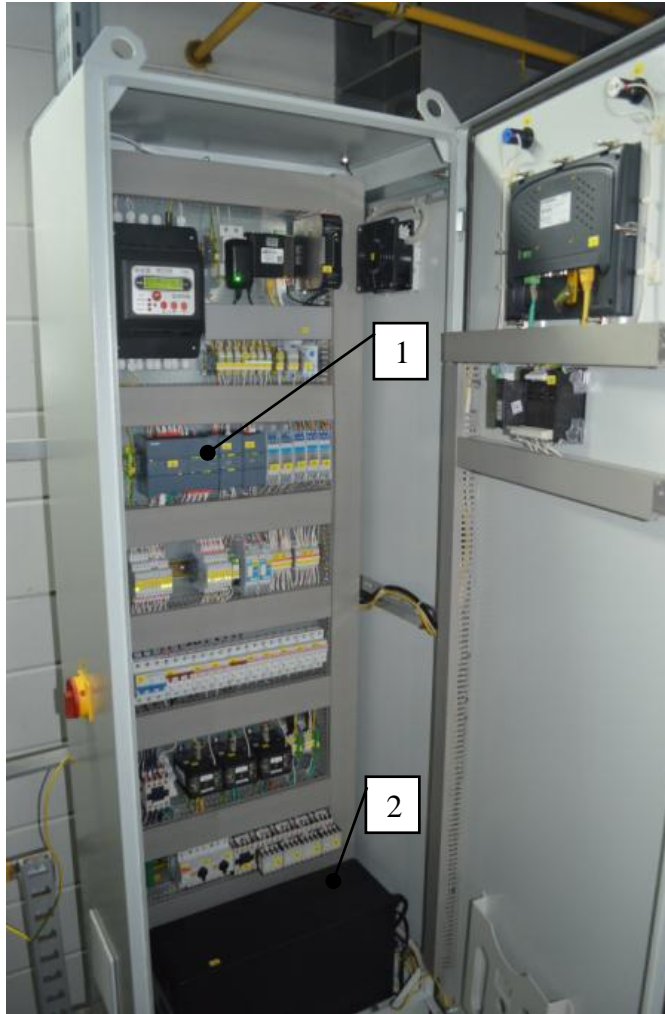
TGU-15-6-H on CHP plant at the Minsk heating network (Minsk)



The composition of the main equipment:

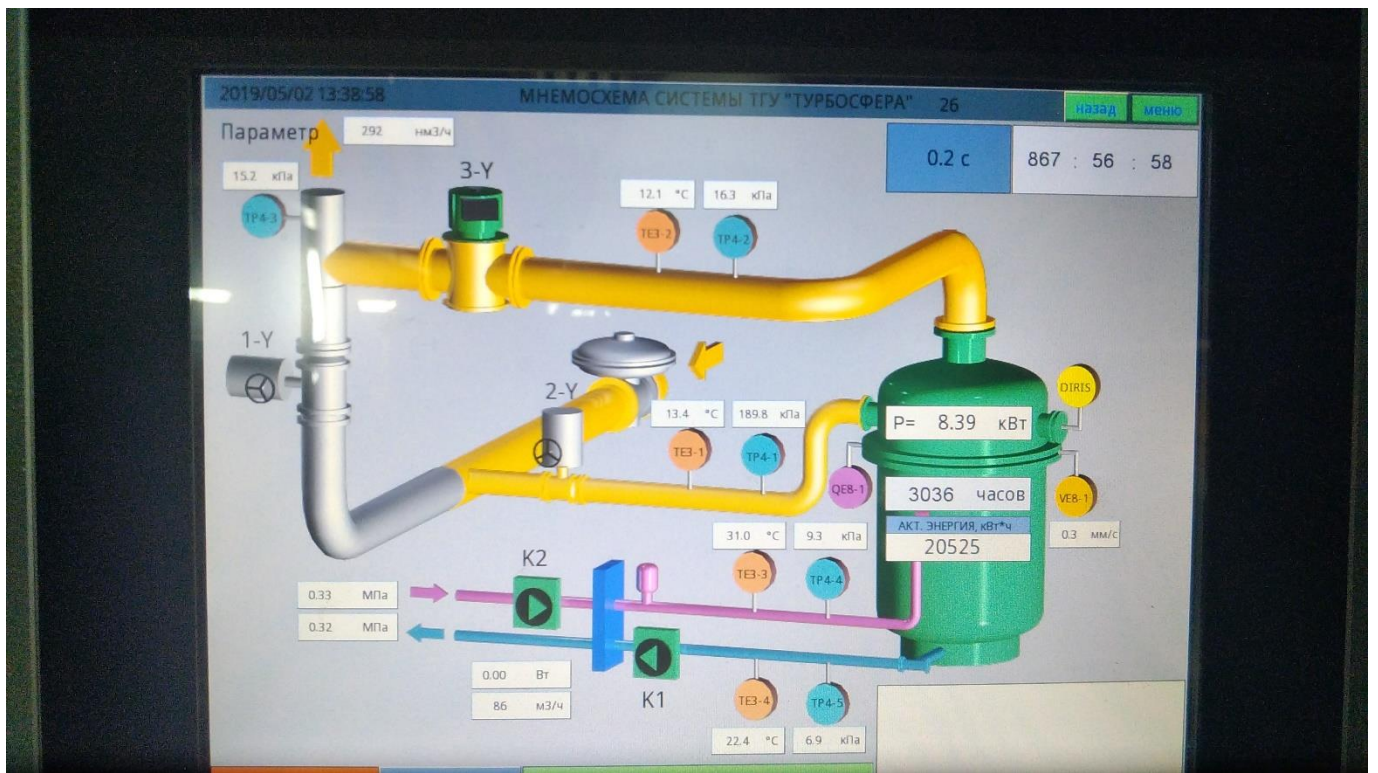
1 – turbogenerator TG-15-6-H; 2 – pressure regulator; 3 – safety shut-off valve; 4, 5 – shut-off valves;  
6 – gas heating circuit





Automatic control system (ACS) consist of Control locker and Power locker

1 – Siemens s-1200 logic controller, 2 – uninterrupt power supply unit; 3 – Weintek MX8090XE graphic control panel; 4 – power monitoring device;  
5 –electric meter



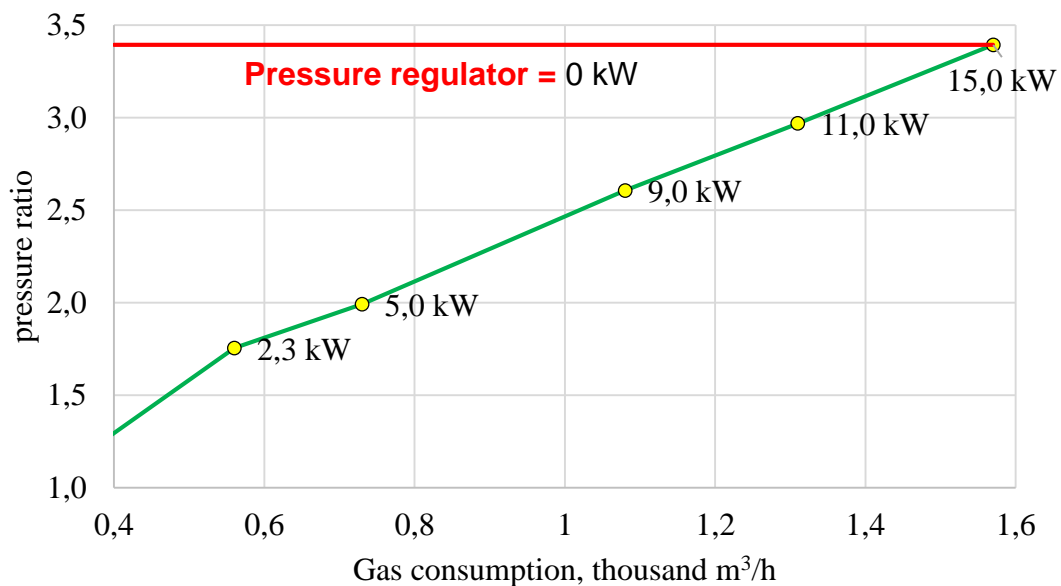
Control panel of TGU TurboSphere  
(start and stop of TGU occurs at the touch of just one button)



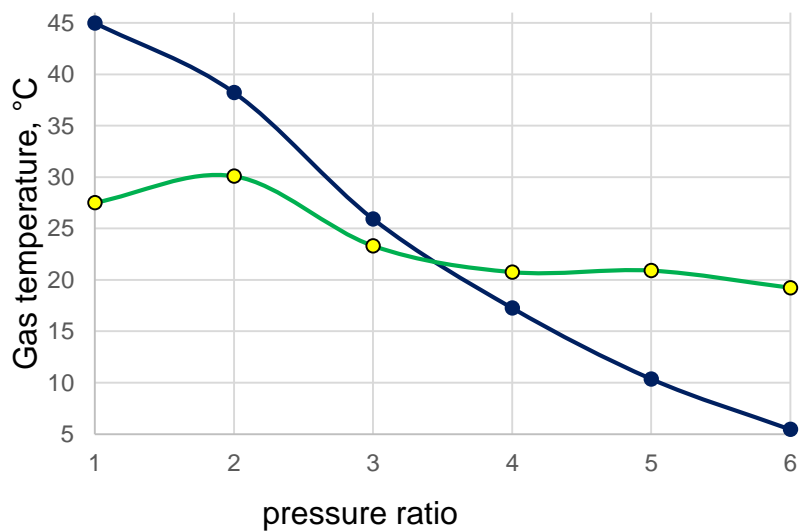
Remote control of TGU for the CHP plant operator  
(output to the top level system and in the control room of the entire enterprise)

### Actual data of TGU-15-6-H on CHP plant:

No.	Pressure before TGU, MPa (excess)	Pressure after TGU, kPa (excess)	Gas consumption under normal conditions, m <sup>3</sup> /h	TGU Electric power, kW
1	0,098	14	560	2,3
2	0,127	14	750	4,4
3	0,197	14	1020	8,5



### Gas-dynamic characteristic of TGU-15-6-H



### Gas temperature drop at TGU