

***SPECYFICATIONS
CONTAINER HEATING SYSTEM
MODEL: KSG 830 kW***

***FOR BATCHING PLANT - MANUFACTURING OF CONCRETE
MIXTURES***



Hot Air Generator NP400 is used for heating of air by means of a light fuel oil burner.

The hot air is transported by means of a high pressure radial (centrifugal) fan into bins (reservoirs) where sand or aggregates are stored. Air to the generator is transported from outside through an intake port with blinds and protective grid.

Water Boiler KW3.5/400 is used for heating of process water by means of a light fuel oil burner. Water is transported into the boiler from the existing batching plant, and then, after heating, is dosed into the water scale and used for manufacturing purposes.

The fuel is stored in double-shell tanks made of polyethylene (PE-HD)

Control Unit controls the whole process of generating of hot air and water. The up-to-date technology allows for full automation of the entire heating system.

Specifications of the aggregate heating system

Technical data:

Type of hot air generator :	NP400
Nominal heat output:	400kW
Efficiency min.:	90%
Outlet air temperature:	130-140°C
Airflow capacity:	9000 m ³ /h
Fan pressure (max.):	8000 Pa
Fan engine power:	22kW
Air heating:	burner Giersch type M10
Fuel type:	light fuel oil
Power:	3 x 400V, 50Hz
External protection:	100A (5 x 16mm ²)
Dimensions (L x B x H):	4300 x 970 x 2000mm
Unit weight:	~ 1400 kg
The system may be controlled in three ways:	
Continuous mode:	continuous operation - 100% effectiveness
Economy mode:	operation - 50% effectiveness by means of a thermostat and a timer (24h)
Automatic mode:	operation controlled by an internal thermostat and a timer (24h)

Description of the „NP400” hot air generation system equipment

- *combustion chamber of the generator with a set of heat exchanger made of stainless and heat-resistant sheet steel*
- *housing of the heater made of a powder-coated, sandblasted constructional steel sheet*
- *generator is designed for co-operation with a high-pressure and efficiency fan*
- *generator is powered by air that is sucked from outside through a special intake silencer*
- *silencer is made of galvanized sheet steel*
- *external blind with a grid protecting a rotor against any objects that can damage the fan and the hot air generator*
- *generator is heated by a fan burner (powered by fuel oil), GIER SCH burner*
- *the burner powered by the complete fuel installation*
- *double-shell fuel oil tank with a capacity of 1000 liters*
- *exhaust extraction hose from the hot air generator to a chimney, made of stainless steel*
- *double-wall, insulated external chimney made of stainless steel:
outer diameter: 300mm
chimney length: 6.0m (from the ground level)*
- *installation for distribution of the hot air between the generator and aggregates bin, made of galvanized steel wires („spiro”)*
- *installation with a mineral wool insulation secured with galvanized steel*
- *covers (valves) for regulation of the air blow-in into aggregates bins, regulated manually, controlling - possibility of automatic adjustment through electrically driven dampers*
- *heating nozzles, welded, made of the increased resistance against abrasion materials with structure adapted for a given type of aggregates bins are mounted in aggregates bins*
- *heating nozzles in a sand reservoir with the increased heating power*
- *connection of power supplies to the nozzles with a diameter of 125mm*
- *connection of the installation and input to aggregates bins by means of a flexible, high temperature-resistant hose*
- *complete controlling of the hot air generator*



Specifications of process water heating

Technical data:

Type of water boiler:	KW3.5/400
Boiler capacity:	3500 litres
Nominal heat output:	430kW
Maximum working temperature	100°C
Max. working pressure:	6 bar
Nominal efficiency:	90%
<i>Boiler continuous performance:</i>	
- for heating of water from 10°C to 45°C	19500 l/h
- for heating of water from 10°C to 70°C	9750 l/h
Water heating:	burner Giersch type M10
Fuel type:	light fuel oil
Power supply:	230V, 50Hz
Emergency heater power:	2.0kW
External protection:	25A (5 x 2,5mm ²)
Dimensions (L x B x H)	5150 x 1500 x 1600mm
Unit weight:	~ 2250 kg

Description of the „KW3.5/400” water boiler equipment

- boiler in a form of a horizontal tank with an exchanger, adapted to the efficiency of a batching plant
- outer shell (coater) of the boiler with a 30mm thin mineral wool insulation
- boiler adapted to work with a fan burner powered by oil fuel, GIERSCH burner
- boiler equipped with an emergency heater enabling to maintain the positive temperature of water in the boiler in case of any uncontrolled stalling of the burner (frost protection)
- the burner powered by the complete fuel installation
- double-shell fuel oil tank with a capacity of 1000 liters
- exhaust extraction hose from the hot air generator to a chimney, made of stainless steel
- double-wall, insulated external chimney made of stainless steel:
 outer diameter: 300mm
 chimney length: 6.0m (from the ground level)
- main control panel with regulation of water temperature in the boiler
- regulation of water dosed into manufacturing process by means of an electrically driven mixing valve
- there is a panel for regulation of water temperature dosed into manufacturing process in a room of controlling of the batching plant
- installation of hot water into the scale insulated by the insulation material (type "Isotube")
- equipped with the water/control/steering and security installation (system)
- complete documentation for acceptance by the Polish Office of Technical Inspection



Heating Container

The NP400 hot air generator and the KW3.5/400 water boiler are built into a container with the load-bearing (supporting) structure made of sections (profiles) filled with a composite panel with polystyrene core. A 50mm panel is double-sided galvanized and painted. Any devices in the container are mounted in a manner allowing for their safe transport. The fuel warehouse is separated from any heating units by a fire-resistant wall according to the fire regulations. The electrical/lighting system and an electric blower heater with a thermostat are mounted in the container. Additionally, the container is equipped with ventilation grilles for air supplying and extracting.

Colour of the container and composite panels according to customer's request on the grounds of the RAL palette.





Controlling

The system is ready to connect using the Internet connection signal (the Ordering Party is responsible for connection of the signal) with any heating system user's computer and with an Android Smartphone. The application allows for intervention in all options of controlling of the system available from the control panel. The control system is enriched with the application for reading of current or historical temperature diagrams using digital and graphic charts.

