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ИНЖЕНЕРНАЯ КОМПАНИЯ

INNOVATIVE PROJECTS

ENGINEERING COMPANY «INTERBLOCK», RUSSIA

Prof. Dr. Bogomolov O. V.
CEO
Full member of the Russian Academy of Natural Sciences
Full member of the International Academy of Engineering

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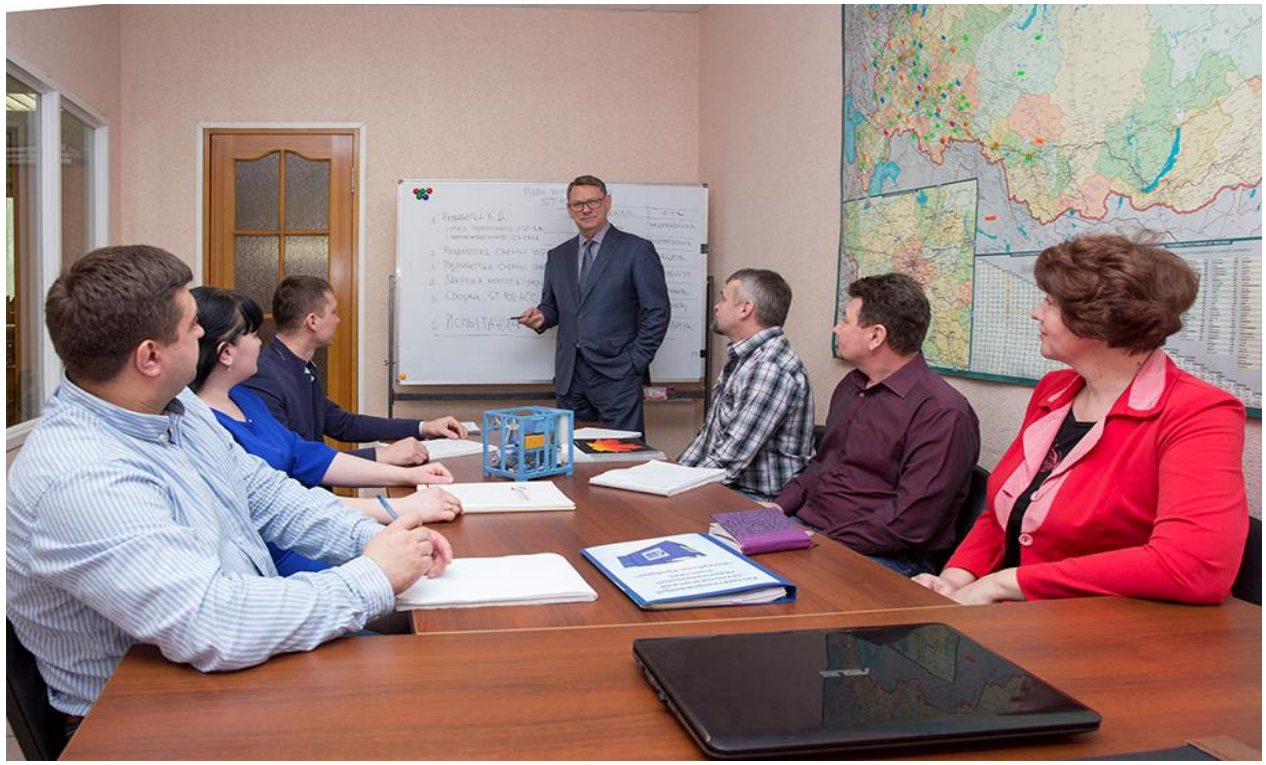
Engineering company INTERBLOCK was established in 1997 in Moscow.
It is a manufacturer of industrial steam generators and developer of innovative technologies linked to application of steam generators.
More than 250 energy facilities have been built in Russia, Belarus, Kazakhstan, Kyrgyzstan, Korea, Poland, Ukraine and South Ossetia.



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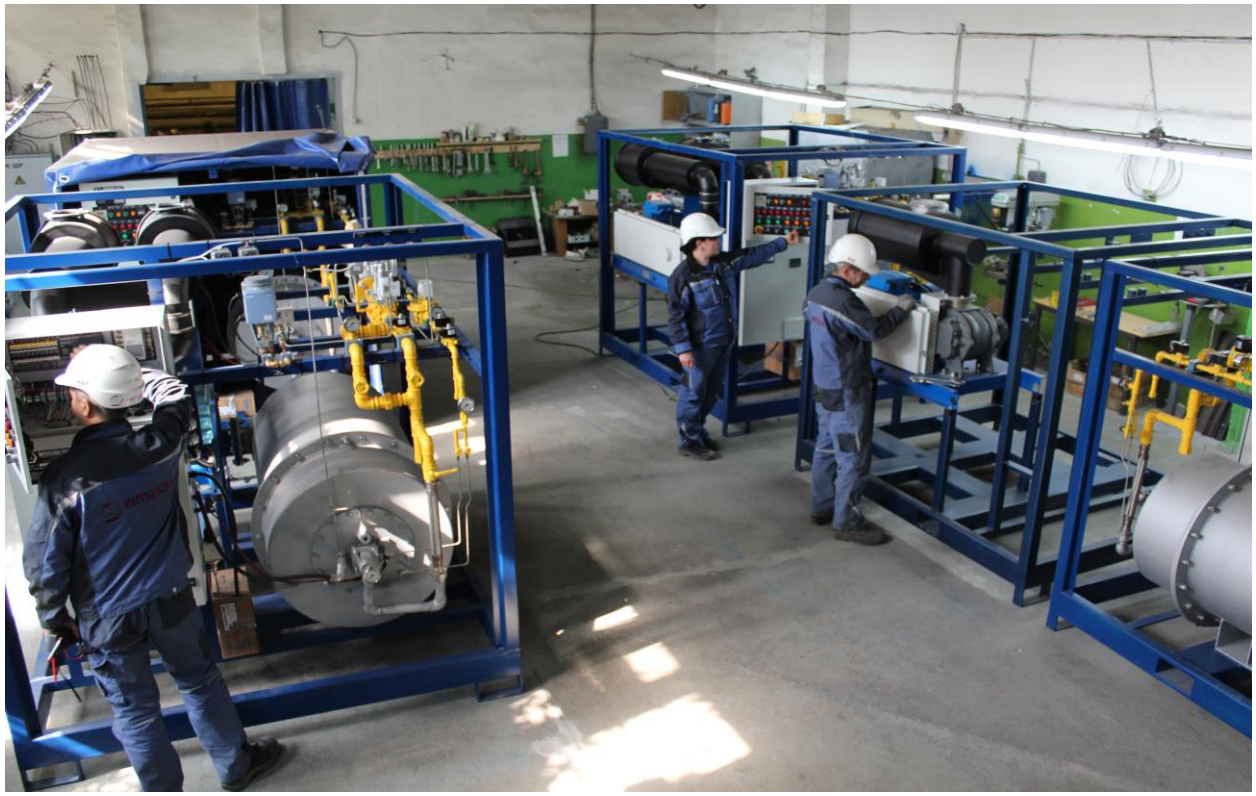
By Decree of the Government of the Russian Federation № 600 from June 17, 2015, INTERBLOCK industrial Steam Generators belong to the class of high-energy power engineering technologies.



Workshop

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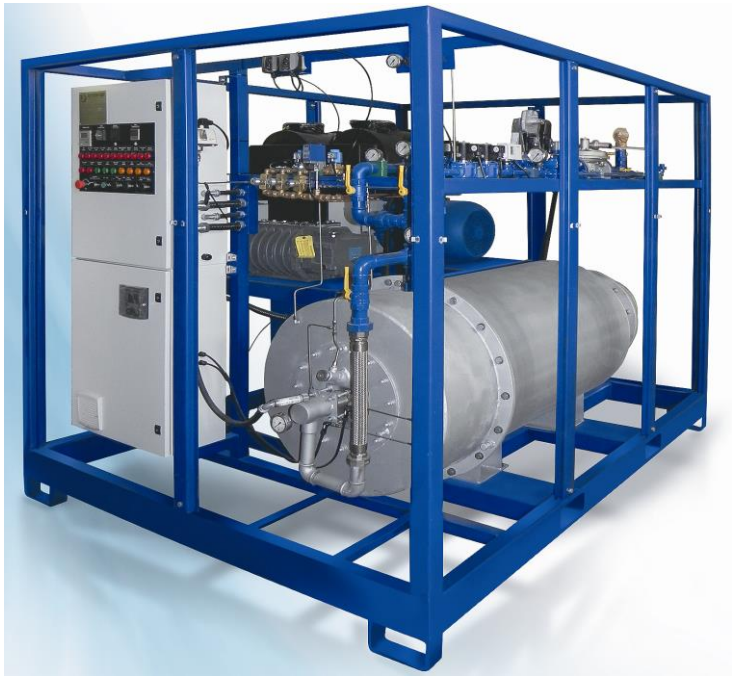
1. INTERBLOCK Industrial Steam Generators



Patents for invention №№ 2598667, 2591217, 181138

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Project name	Use	Brief description
INTERBLOCK Industrial Steam Generators Patent for invention №№ 2598667, 2591217, 181138	Designed for the production of thermal energy for a) technological processes in industry and agriculture b) heating of residential buildings and other facilities	Thermal power range from 100 kW to 1450 kW. Steam operating temperature 100-200°C. Steam pressure 0,05 MPa. Main advantages of steam generators: ✓They save energy resources ✓No chimney, no harmful emissions into the atmosphere ✓Only 15 seconds to switch the generator on ✓Easy to install wherever the steam is required ✓No special boiler room required ✓No in-house engineer required What is necessary for the steam generator's operation: ✓ fuel – natural gas, diesel or propane; ✓ electricity 380/220V, 50 Hz; ✓ water (fresh or marine) of 3.0-3.5 kg/cm2

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TECHNICAL SPECIFICATION	Model Steam Generator			
	ST-350H	ST-102H	ST-302H	ST-502H
Output, kW	98	290	870	1450
Output, Gkal	0,09	0,25	0,75	1,25
Evaporation, ton/hr	0,15	0,5	1,5	2,5
Steam temperature, °C	100 - 200	100 - 200	100 - 200	100 - 200
Efficiency, %	97-99	97-99	97-99	97-99
Steam pressure, MPa	0,05	0,05	0,05	0,05
Power supply, kW	1,0	5,5	15	35
Water consumption, l/min ($м^3$/hr)	1,5 (0,09)	4 (0,24)	12 (0,72)	19 (1,14)
Natural gas consumption, $м^3$/hr	10	28	85	142
Propane consumption, kg/hr	8	22	68	113
Diesel fuel consumption, kg/hr	8	23	69	115
Shipping weight, ton	0,54	1,7	2,2	3,8
Dimensions (L × W × H), m	1,5×1,2×1,2	1,8×1,4×1,6	2,0×1,8×1,9	2,3×2,0×2,0

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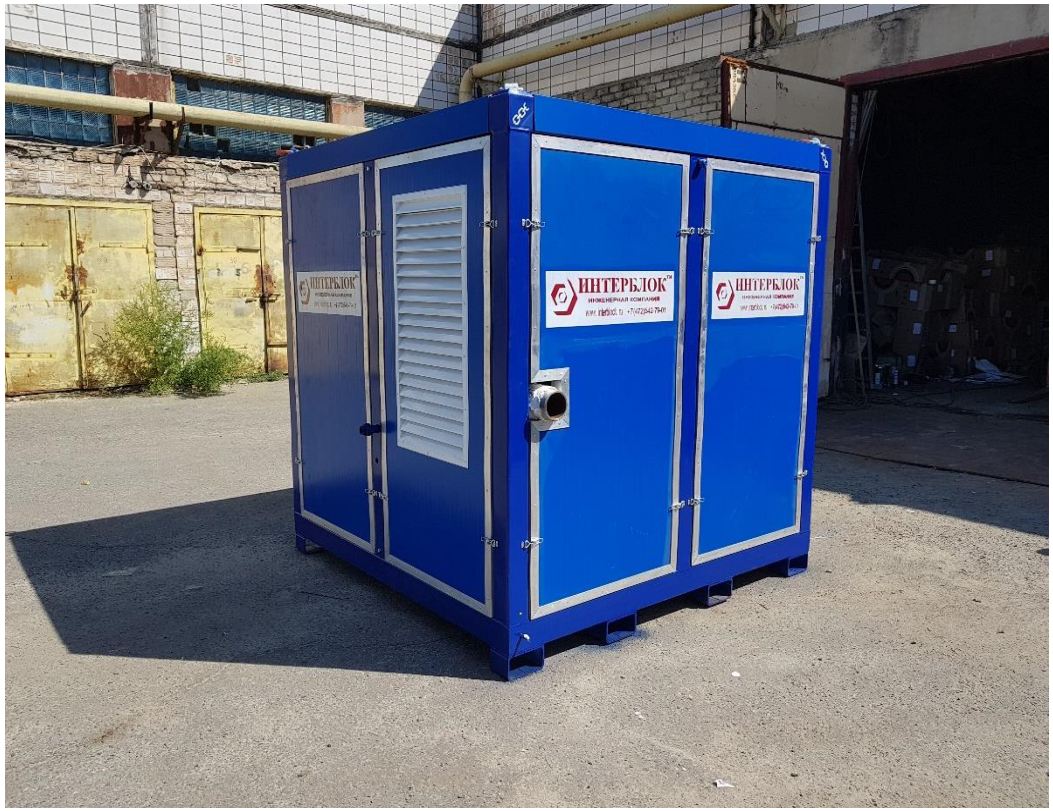
2. INTERBLOCK industrial Steam Generators

External power supply is not required



Patent for invention №181138

Project name	Use	Advantages
INTERBLOCK Mobile Industrial Steam Generators ST-350H, ST-102H, ST-302H, ST-502H	Designed for the production of thermal energy at unequipped locations.	External power supply not required. Work on seawater possible for 4-6 hours. The range of thermal power from 100 kW to 1450 kW. Operating temperature 100-200°C. Steam pressure 0,05 MPa. Efficiency 97%.
No external power supply required	Can operate both indoors and outdoors	What is necessary for the steam generator’s operation: diesel fuel, industrial water (fresh or sea)

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3. **INTERBLOCK block-modular boiler**
for technological purposes

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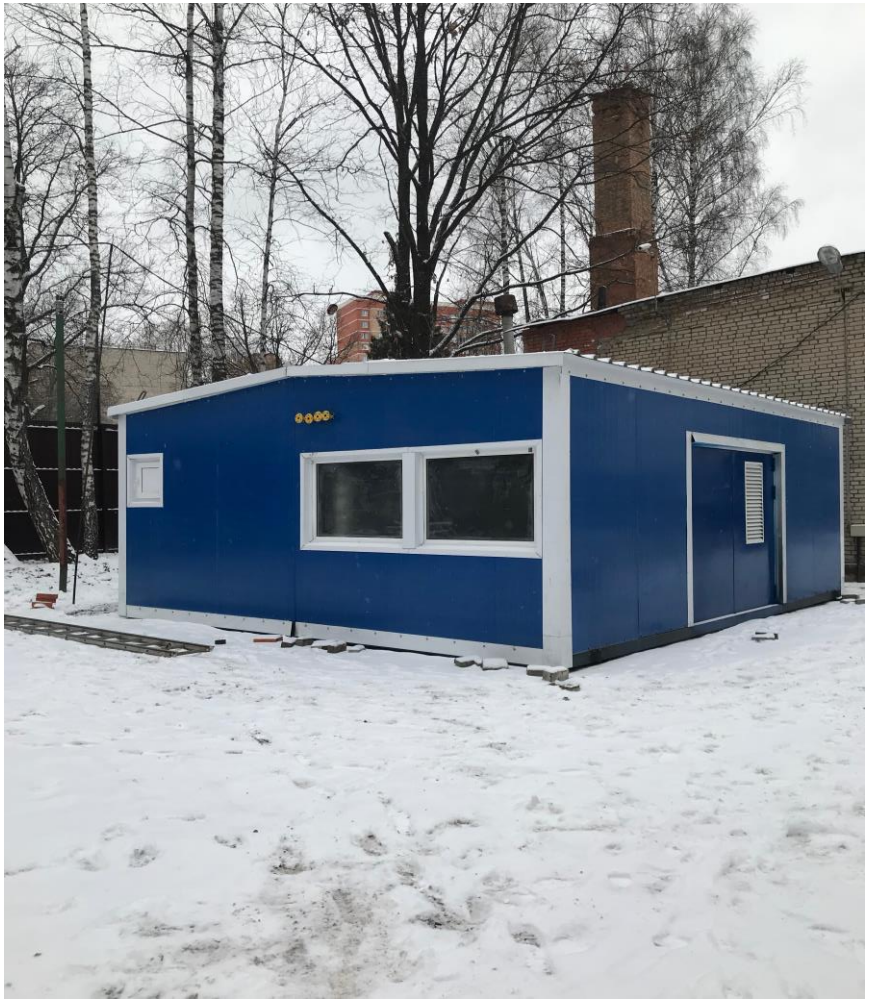
4. **INTERBLOCK modular heating boilers without chimneys** for heating of residential buildings



5. INTERBLOCK air heating systems

for heating of industrial buildings and large warehouses

Project name	Use	Advantages
1. INTERBLOCK modular heating boilers (MHB)	Designed for heating and hot water supply at residential, industrial and administrative buildings and structures	MBH INTERBLOCK does not require installation of chimneys or construction of special buildings like a boiler house, there are no harmful emissions into the atmosphere. EFFICIENCY BMK INTERBLOCK 97%. Thermal power range from 100 to 5800 kW
2. INTERBLOCK air heating systems	Designed for heating of warehouses and large industrial premises.	INTERBLOCK air heating systems are 25-30% more economical than traditional heating system and 8-10 times more economical than electric heating systems.

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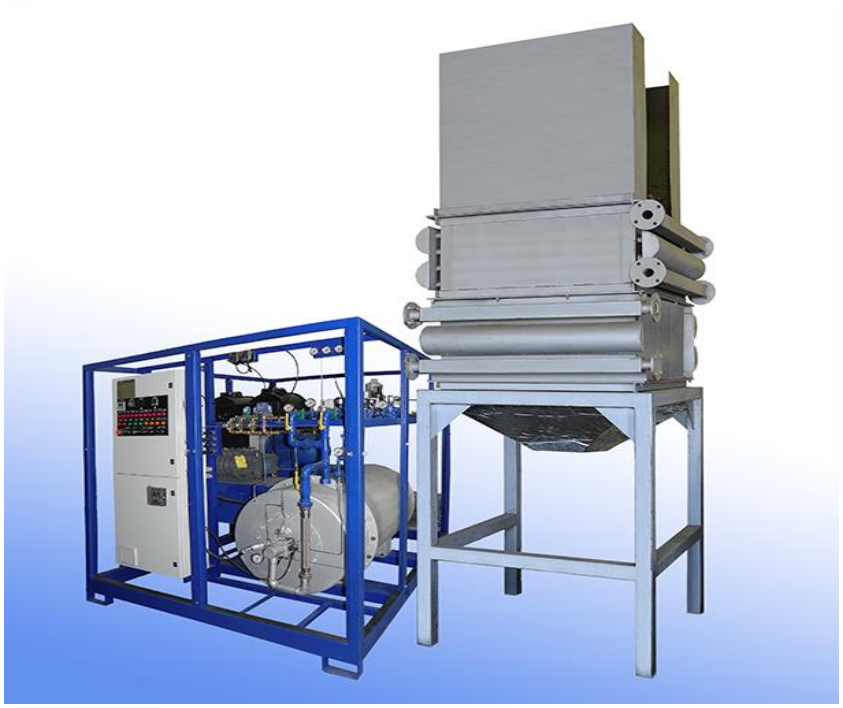
6. INTERBLOCK mobile grain drying systems

for heating or drying grain to a predetermined temperature or humidity



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BRIEF DESCRIPTION

Mobile grain drying system includes:
INTERBLOCK Steam Generator, INTERBLOCK Grain Dryer.

It is installed directly on the farm.
Performance of grain drying complex – 2-10 t/h.
Installation time – 4-5 hours.
Average consumption of diesel fuel – 1.1 liters of diesel fuel /1t of grain /1% humidity (wheat 20%-14%).
Acceptable fuel – diesel, propane, natural gas.
The height of the complex is less than 6 m, which allows to transport it by road.
Reduction of time of effective harvesting of grain crops without losses is provided.

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7. INTERBLOCK automated ice-melting complex with the function of water purification from oil product

Patent for the invention № 2643271

BRIEF DESCRIPTION

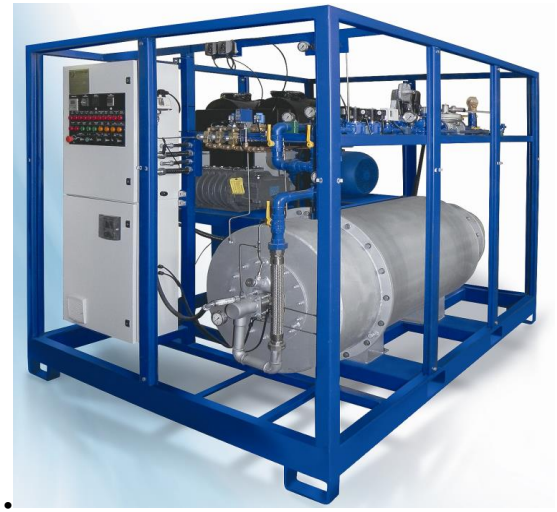
Designed for rapid elimination of emergency oil spills on ice or water surface and water purification from oil pollution.

Functions:
- Collection and accumulation of contaminated ice or water;
- High-speed melting of contaminated ice or water through heating by 200^0C steam;
- Production of oil-water emulsion;
- Effective destruction of oil-water emulsion;
- Water purification by wave treatment;
- Pumping of purified water and petroleum products in appropriate containers.

№№	Basic features	Value
1	Capacity to purify contaminated ice/water	4-8 m^3/hr
2	Density of petroleum products	720 -1200 kg/m^3
3	Oil content in water after purification	no more than 15 mg/dm^3

8. INTERBLOCK automated fire extinguishing systems

Designed to prevent fires and extinguish fires at mining, manufacturing and agriculture facilities, marine and river infrastructure.



Fire extinguishing medium – vapor-gas mixture.
The fire extinguishing system switches on automatically when the specified temperature threshold is exceeded.

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Engineering company INTERBLOCK
123592, Moscow, Kulakova str., 20, p. 1B
+7 (495) 728-92-93
+7 (903)149-87-81
+7 (472) 542-79-01
info@interblock.ru
www.interblock.ru