



# SYSTEM SOLUTIONS FOR FIRE PROTECTION

2020

Leading on the CIS market in:  
production, innovations, design,  
installation and supplying wide  
range of equipment

5 international  
offices

More than 1000  
projects around  
the world

Innovative patented  
technology – proved  
efficiency



# COMPANY HISTORY



Company foundation

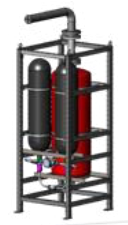


First pumping station launch

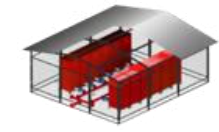


Full-scale tests on extinguishing model (1: 1) 20000 m3 tank

«BiZone» complies to GOST and ISO 9001-2015 requirements



First gas-powder firefighting system



Launch of AGPFES (Automatic Gas-Powder Fire Extinguishing System)

International expansion

SYSTEM SOLUTIONS FOR FIRE PROTECTION

# COMPANY STRUCTURE



Financial  
department



Sales and  
marketing  
department



Research and  
development  
department



Engineering  
department



Production  
facilities



Warehouse



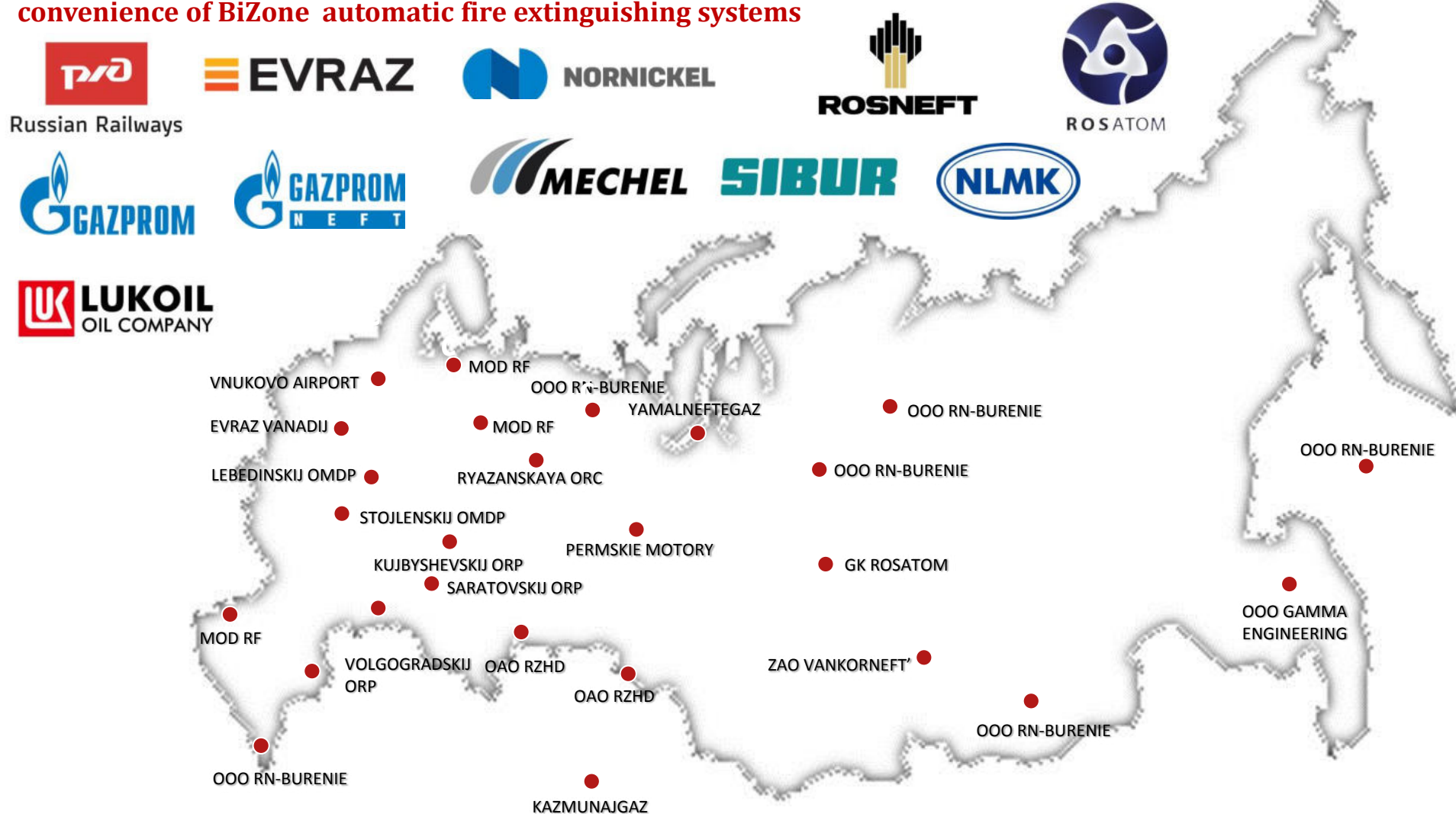
Test area



Logistics  
department

# MAJOR PROJECTS IN RUSSIA AND KAZAKHSTAN

Completed projects in Russia and Kazakhstan confirmed the high level of quality, reliability and operational convenience of BiZone automatic fire extinguishing systems



# KALANCHA

Since 1994 the company “Kalancha” has been engaged in research and development of its own unique technologies and equipment in the field of fire extinction. Some of the inventions have no analogies in the world and are protected by Russian and international patents.



# 3D FIRE FIGHTING

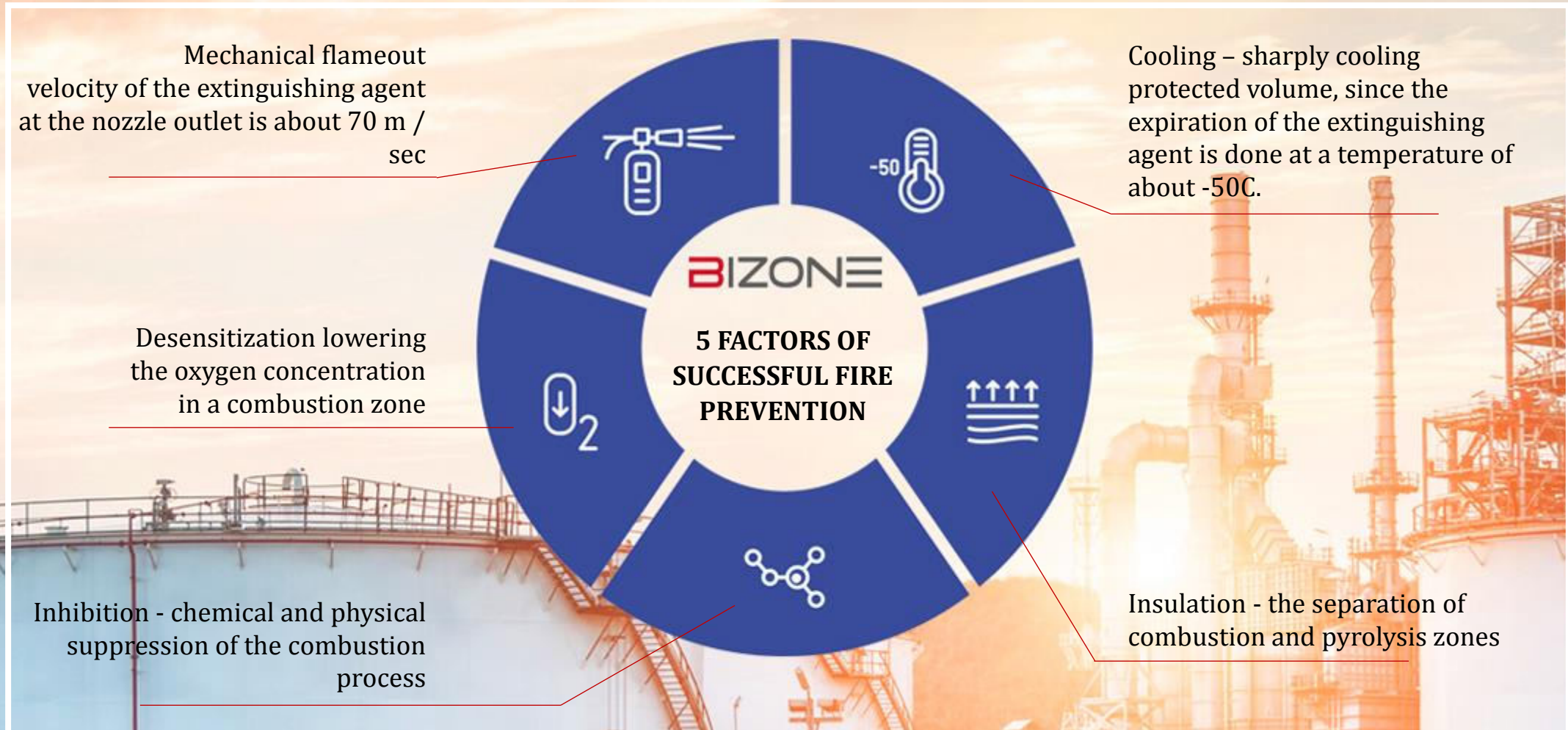


- **Minimum inertia**
- **100% volume coverage**
- **Affects all 5 factors of fire launch**

**The most efficient technology due to simultaneous use of 5 fire extinguishing mechanisms. Enables 3D fire fighting covering all premises both open space and inside the building**

# WORLD'S FIRST

effective system of automatic firefighting protection for tanks with oil and petroleum products





# INNOVATIVE TECHNOLOGY WITH PROVED EFFICIENCY



**EFFICIENCY** - from the moment of ignition to fire suppression less than 10 seconds;



**SERVICEABILITY** - installation quenching efficiency in the range of temperatures from + 50 C to -50 C;



**RELIABILITY** - lack of complaints equipment «BiZone» in 12 years of production;



**SECURITY** - the extinguishing agent does not harm the structures,



**BENEFIT** – application of the equipment «BiZone» economically feasible at all stages: procurement, installation, operation.



The world's only technology that offers full protection using 4 times less mixture concentration than analogies

# GAS-POWDER FIRE EXTINGUISHING MODULES «BIZONE»

Technical characteristics	MGPP-7.5 «BiZone»	MGPP-8 «BiZone»	MGPP-110 «BiZone»
Protected Volume: Class A/Class B	60 m <sup>3</sup> /45 m <sup>3</sup>	90 m <sup>3</sup> /60 m <sup>3</sup>	900 m <sup>3</sup> /600 m <sup>3</sup>
Protected Area		17 m <sup>2</sup>	100 m <sup>2</sup>
Explosion proof mark		1ExdsIIBT4 X	1ExdsIICT4 X
Operation temperature range	-50 °C +50 °C	-50 °C +50 °C	-50 °C +50 °C
Full module weight, max,	28 kg	36,5 kg	365 kg
Jet length	4-6 m	5-6 m	18-20 m
DC parameters required for module actuation	0.5 A, 6-24VAt uration of 0.02 s	0.5 A, 6-24VAt duration of 0.02 s	2x0.5 A, 6-24VAt duration of 0.02 s
Module response rate, max	1s	1s	1s
Duration of discharge, max	5 s	15 s	10 s
Piping options	Yes	Yes	Yes
Overall dimensions	200x810x165 mm	205x750x305 mm	630x1730x670 mm
Service lifetime, min	10 years	10 years	20 years



MGPP-7.5  
«BiZone»



MGPP-8  
«BiZone»



MGPP-110  
«BiZone»

# "BIZONE" FOR OIL AND GAS FACILITIES

PROTECTION OF TANKS WITH OIL AND PETROLEUM PRODUCTS

Field tests to  
extinguish layout  
storage tank  
capacity  
20 000m<sup>3</sup>



Fire starts



Bizone fire fighting launches



11 sec

Field tests to  
extinguish storage  
tank capacity  
5 000m<sup>3</sup>



Fire starts



Bizone fire fighting launches



9 sec

# Advantages of “BiZone” gas-powder fire-fighting system

## Technological

1. Does not require water supply.
2. Effective suppression of combustion of petroleum and petroleum products.
3. The minimum inertia (less than 10 sec), suppression of the fire in its early stages.
4. High '-' & '+' operating Temperature range (-50 to +50 C).
5. The lack of destructive effects of equipment and structures.

## Economical

1. Lower suitable (compared with foam systems) cost.
2. Low operational costs.
3. Minimize or even absence of real damage from the ensuing fire because of consequence of his elimination at the earliest stage.
4. Efficient maintenance – no need to refresh extinguishing agent during technical lifetime



# "BIZONE" FOR OIL AND GAS FACILITIES

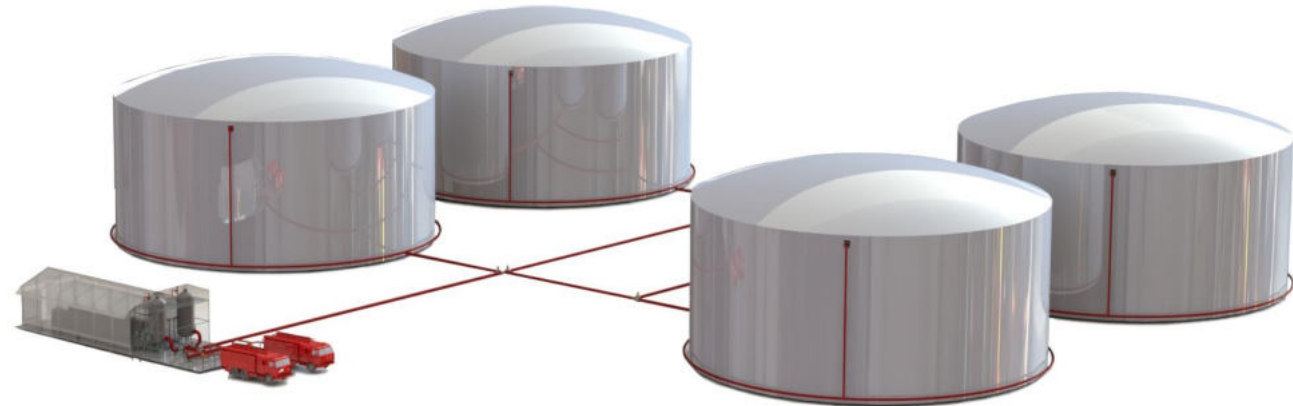
## PROTECTION OF THE DIFFERENT TYPES OF TANKS

### Firefighting protection for different types of tanks by gas-powder systems:

- Tank with pontoon  
Extinguishing occurs volumetrically by filling the whole volume of the pontoon



- Group from 4 tanks



- Group from 2 tanks

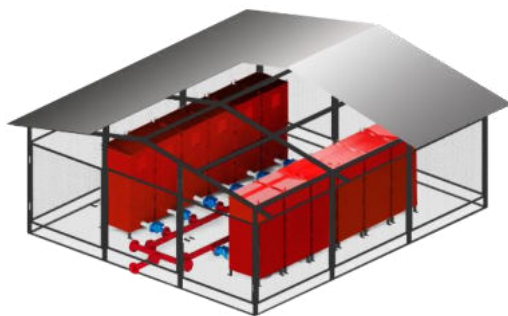


# "BIZONE" FOR OIL AND GAS FACILITIES

## TYPES OF SYSTEMS

- System from standard gas-powder firefighting modules MGPP-110 "BiZone":

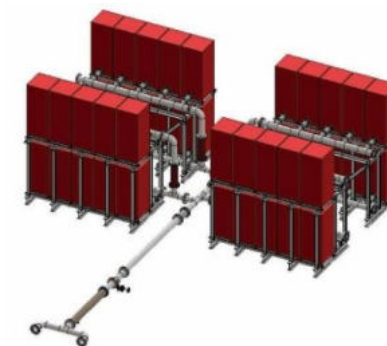
Consists of the main and backup batteries which are installed on a single foundation



- Gas-powder fire extinguishing system in cargo container 40 ft:

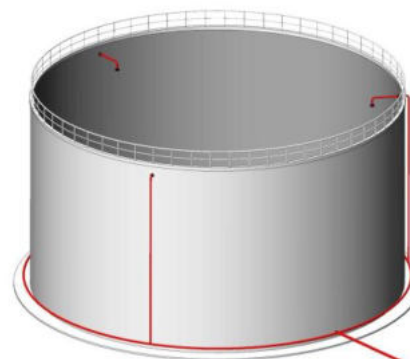


- System with with two-level placement of units MGPP-110 "BiZone"



# FIRE PROTECTION FOR A TANK FARM

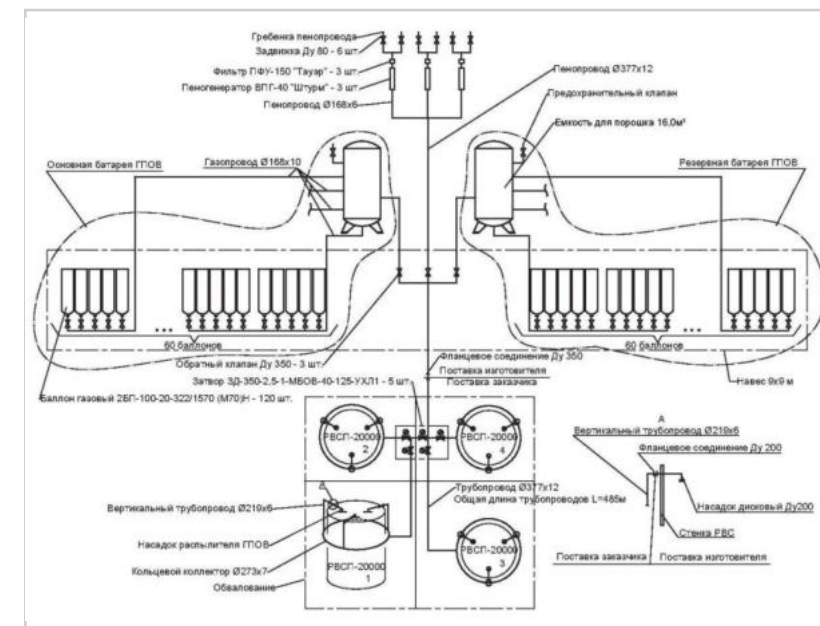
TANK FARM OF 4 VSTS, 20000 M3 EACH



## Technical parameters of VST-20000

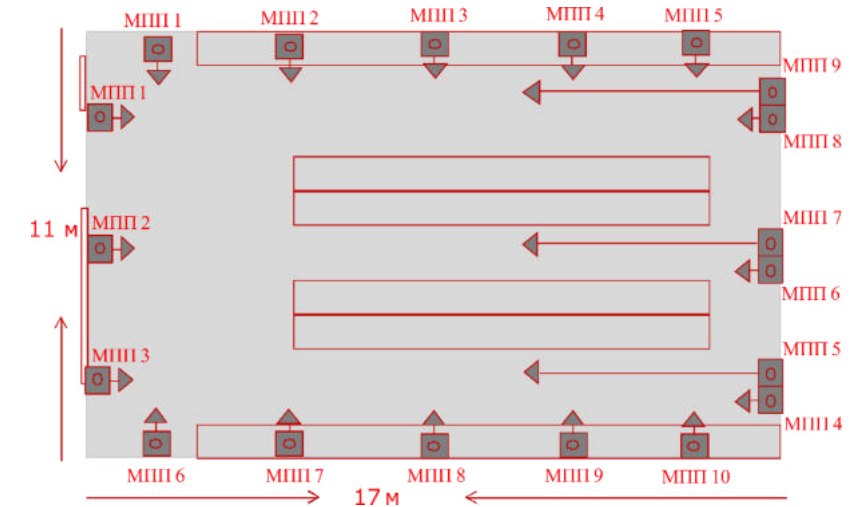
Basic technical parameters of VST-20000	Value
Tank capacity, m3	20 000
Max.diam. of the tank, m	39,9
Max.height of the tank, m	18,0

## Technical scheme for AGPFEI VST-20000



# "BIZONE" FOR CIVILIAN OBJECTS

INDOOR VOLUMETRIC FIREFIGHTING  
 WAREHOUSES WITH IMFLAMMABLE MATERIAL ASSETS



- Possibility of using the agent supply piping ensures increased usability
- The protected volume is proportional to the standard form construction dimensions



# "BIZONE" FOR CIVILIAN OBJECTS

INDOOR VOLUMETRIC FIREFIGHTING  
INFRASTRUCTURE FACILITIES

Objects containing inflammable  
materials



Painting and drying chambers



Garages



Automated parking



Civil and military  
equipment hangars

# "BIZONE" FOR CIVILIAN OBJECTS

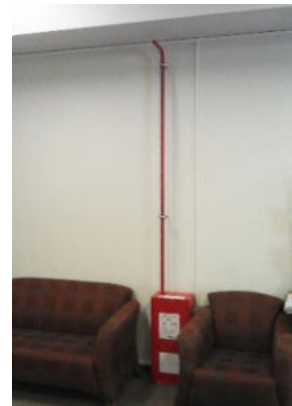
INDOOR VOLUMETRIC FIREFIGHTING  
INFRASTRUCTURE FACILITIES

## Vault areas



Bibliothecas, archives

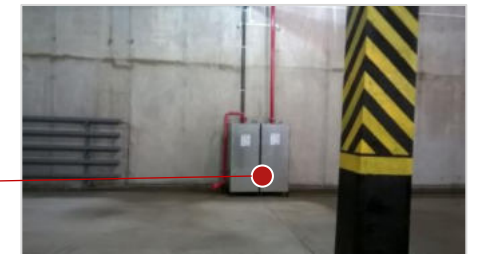
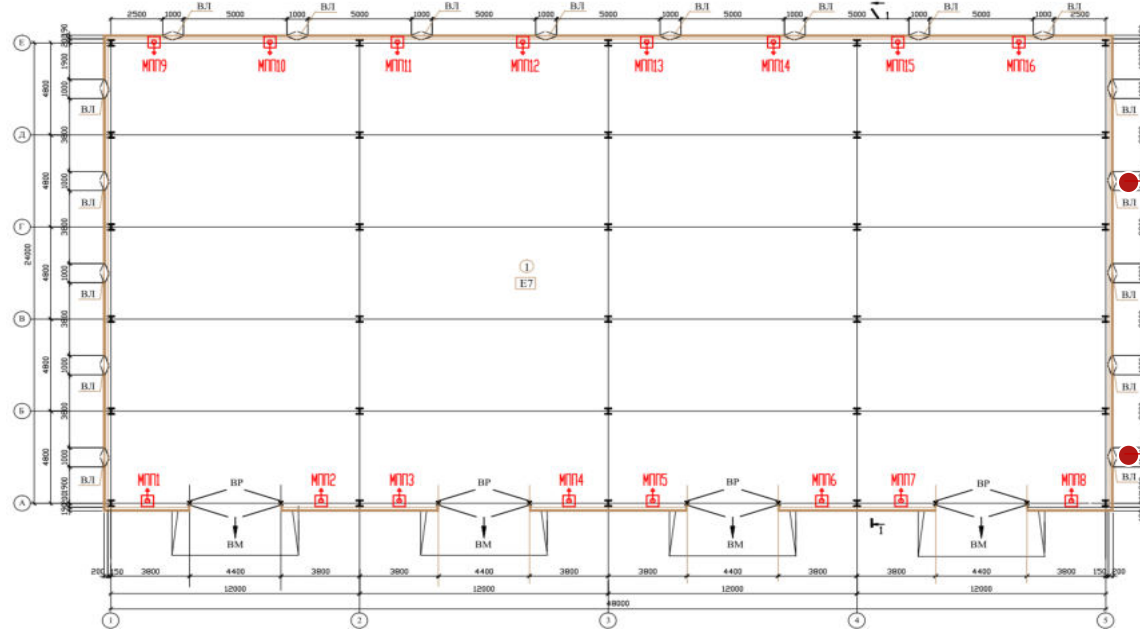
## Public spaces



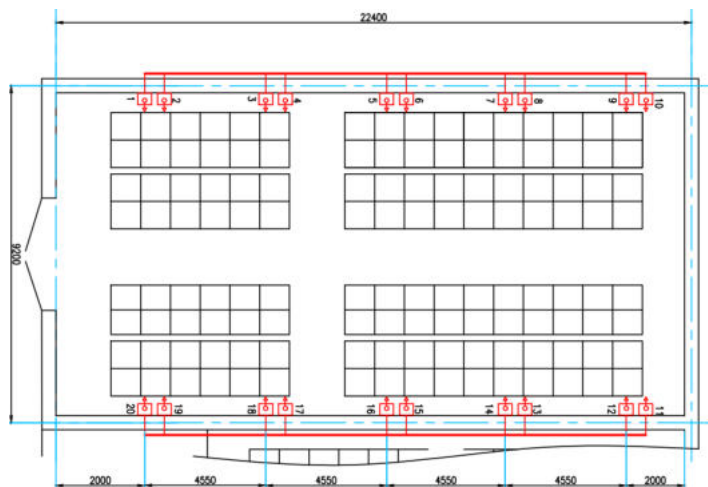
Offices

# "BIZONE" FOR MILITARY FACILITIES OF SECURITY AGENCIES AND MINISTRY OF DEFENCE OF THE RUSSIAN FEDERATION

## WAREHOUSES AND ARSENALS



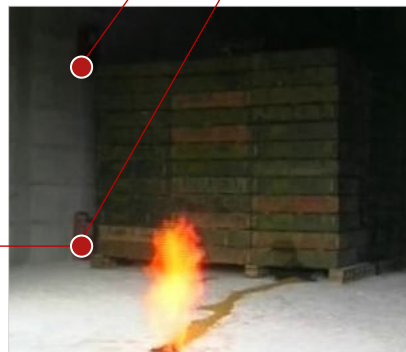
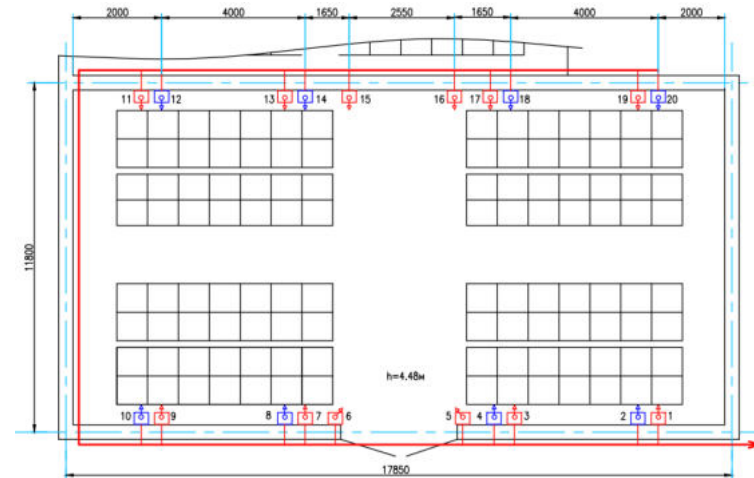
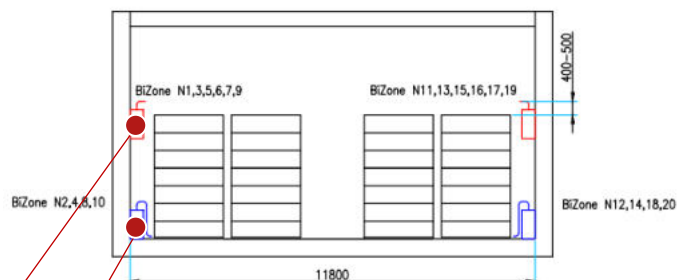
# "BIZONE" FOR MILITARY FACILITIES OF SECURITY AGENCIES AND MINISTRY OF DEFENCE OF THE RUSSIAN FEDERATION



Условные обозначения

☐ — Модуль пороховый BiZone

LEGEND  
Powder fire extinguishing module «BiZone»



# "BIZONE" FOR MILITARY FACILITIES OF SECURITY AGENCIES AND MINISTRY OF DEFENCE OF THE RUSSIAN FEDERATION

Vault areas



Military equipment depots

Vault areas



Ammunition and weapons depots, warehouses with material allowance

# "BIZONE" FOR MILITARY FACILITIES OF SECURITY AGENCIES AND MINISTRY OF DEFENCE OF THE RUSSIAN FEDERATION

Vault areas



Open areas for weapons storage



Archives and documentation repositories

Fire-dangerous facilities of the Ministry of Defense of the Russian Federation



Fire hazardous production areas

# "BIZONE" FOR MILITARY FACILITIES OF SECURITY AGENCIES AND MINISTRY OF DEFENCE OF THE RUSSIAN FEDERATION

Storage and operation facilities for fuel and lubricants



Fuel and lubricants storage depots including oil tank farms



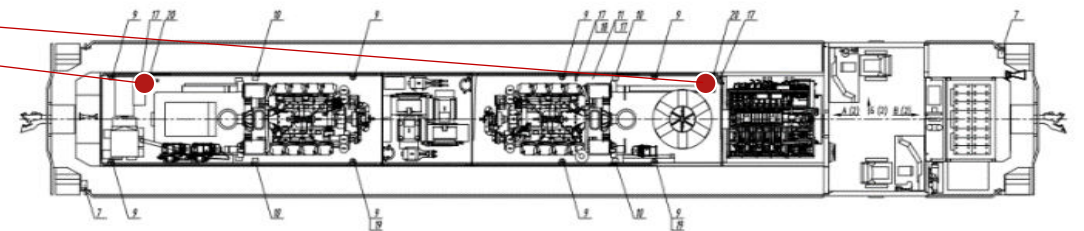
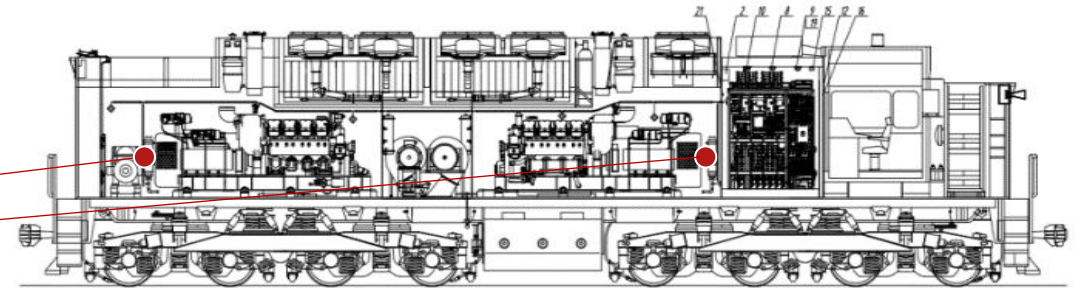
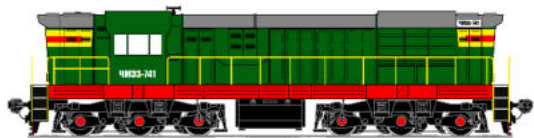
Fuel stations for military equipment and vehicles



# "BIZONE" FOR TRANSPORTATION

## MOTOR VEHICLE COMPARTMENTS PROTECTION

Production of new locomotives and tank trucks

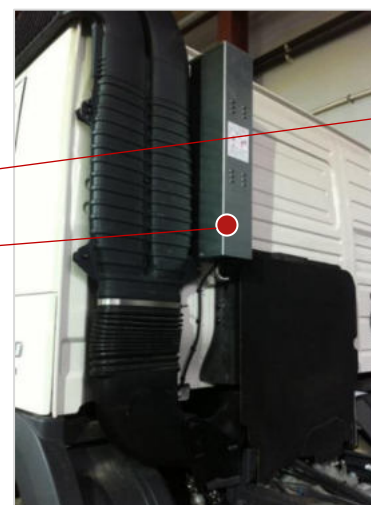




# "BIZONE" FOR TRANSPORTATION

## MOTOR VEHICLE COMPARTMENTS PROTECTION

Protection of light, heavy commercial vehicles and special purpose transport



# "BIZONE" FOR TRANSPORTATION

## TANK VEHICLE PROTECTION

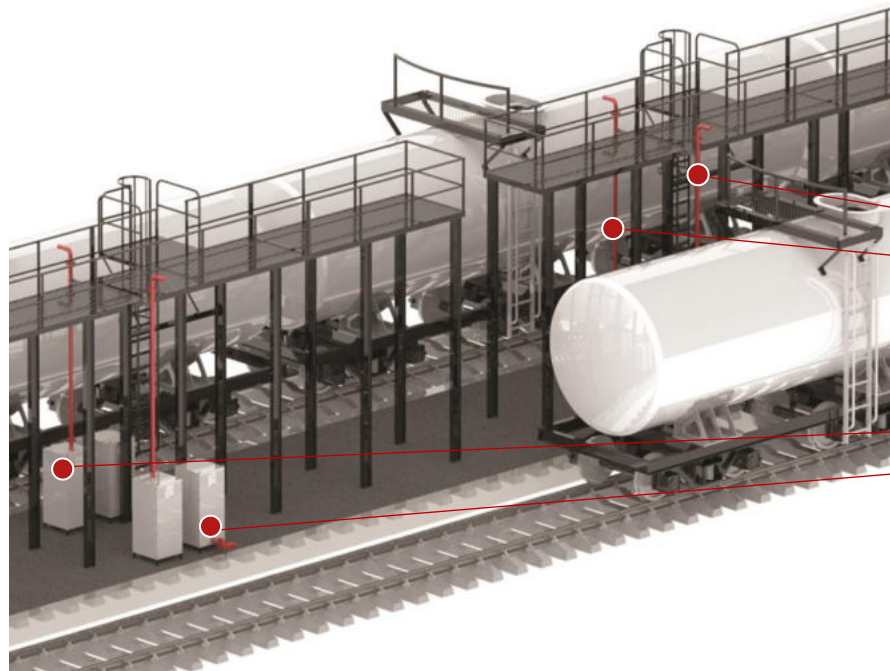


— Fuel trucks

— Bitumen tanks

# "BIZONE" FOR OPEN-AIR TECHNOLOGICAL FACILITIES

LOCAL TOTAL FLOODING EXTINCTION OCCURS



- Oil loading/unloading racks of different types
- Open and half-open facilities
- Hot oil heaters

# "BIZONE" FOR GAS/FUEL STATIONS

Pit around the fuel discharge to the underground reservoirs

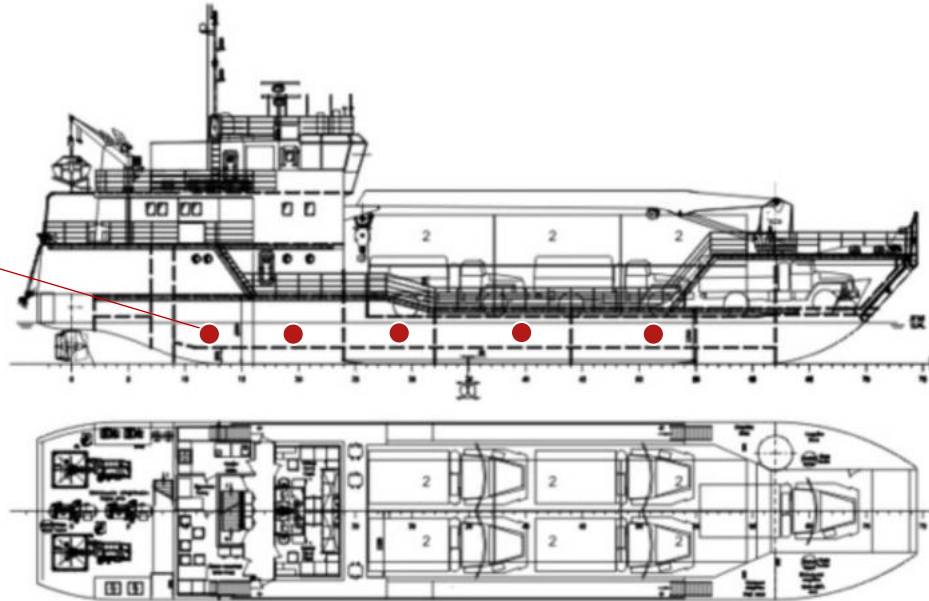


Local zone next to the dispensers



# "BIZONE" FOR TANKERS

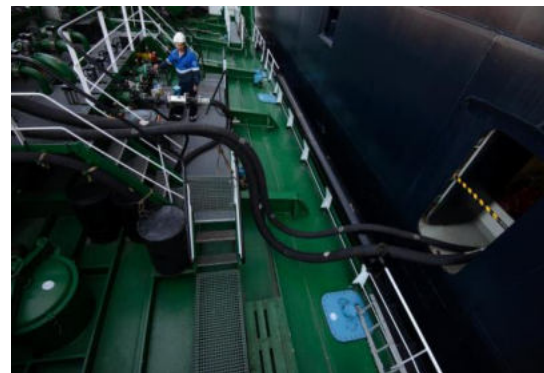
SPACES OF THE VESSEL PROTECTED BY THE AUTOMATIC GAS-POWDER FIRE-EXTINGUISHING INSTALLATIONS



- Machinery spaces for main and auxiliary engines, emergency diesel generators and boilers fueled by liquid fuel, fire pumps
- Machinery spaces for generators and backup power supply, main and emergency switchboards, electric engines (including propulsion motors) and ventilation systems of the mentioned equipment

# "BIZONE" FOR TANKERS

SPACES OF THE VESSEL PROTECTED BY THE AUTOMATIC GAS-POWDER FIRE-EXTINGUISHING INSTALLATIONS

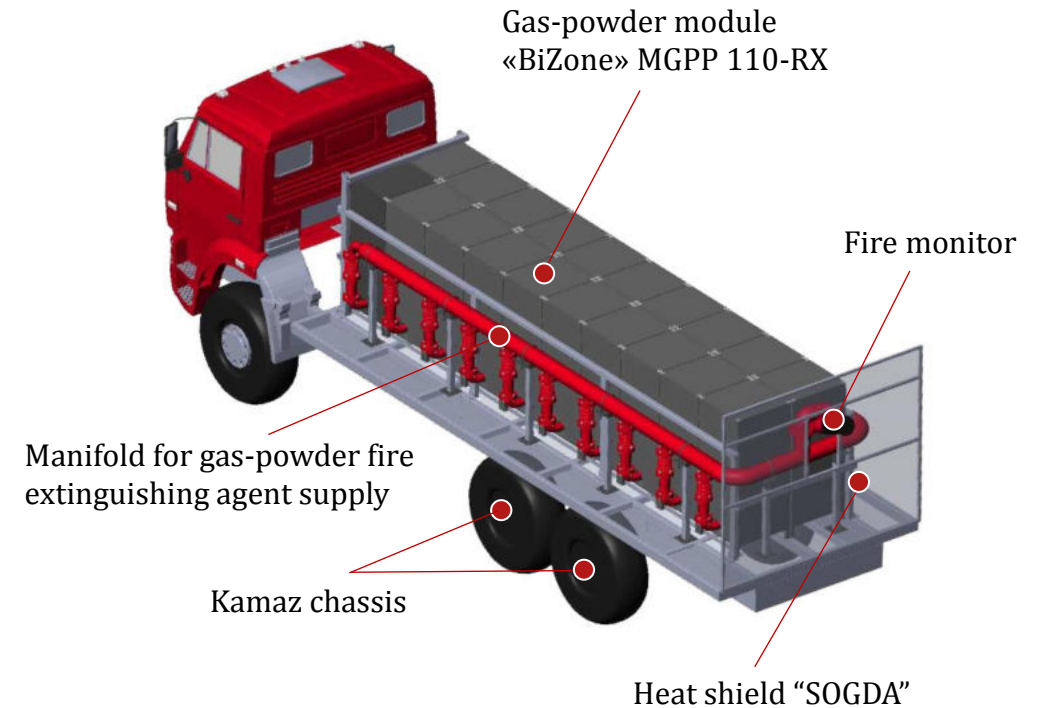


- Facilities with fuel and oil citerns (main storage, expendable), bilge water storage, cofferdams
- Storage facilities for compressed and liquefied gases, inflammable liquids, materials and substances
- Cargo pump-rooms of the tankers



# GAS-POWDER FIRE-EXTINGUISHING INSTALLATION FOR OIL & GAS GUSHERS

- The mobile installation is mounted on Kamaz chassis.
- The installation consists of 2 sets (rows) of gas-powder modules «BiZone» MGPP 110-RX, 10 modules each, applying gas-powder fire-extinguishing agent (GPFEA) through the manifold to the remote control fire monitor equipped with the camera for a more accurate aim.
- The installation is equipped with the heat shield “SOGDA” for the protection of the equipment and the crew from the heat flux of the burning gusher.
- The installation is designed for 2 launches.
- As an option the vehicle can be equipped with the manipulator for a quick dismantling of the used modules and their further replacement for new ones.



## Technical characteristics

Basic technical parameters	Value
The total amount of the gas powder fire-extinguishing agent in the installation, kgs	2200
Fire-extinguishing powder Feniks ABC-70 weight, kgs	1600
Carbon dioxide CO <sub>2</sub> weight, kgs	600
Fire-extinguishing agent discharge time, max, seconds	10

## Operation

In case of accident during the well drilling accompanied by the ignition of the oil and gas gusher it is necessary to:

- clear the wellhead from the metal constructions that can be the source of the re-ignition after the fire is extinguished
- move the installation to the gusher at the necessary distance that is calculated depending on the gusher flow
- aim the fire monitor at the bottom part of the gusher and launch the installation



**THANK YOU  
FOR ATTENTION!**

**DISTILLAT**