

Bozena Riot

security system



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BOZENA RIOT SYSTEM is designed to control riots in streets and urbanized areas and to protect the law-enforcement units in action whenever peace maintenance is required. The system is intended predominantly for the special military and police units responsible for the **CROWD CONTROL** during the violent political/social demonstrations, against football hooligans, etc. **BOZENA RIOT** was developed in a close cooperation with specialists of the Slovak Police Corps. In principle, **BOZENA RIOT** is the well protected and easy deployable barrier which can be flexibly used in favor of actual operational needs as a tool:

- (1) to direct or disperse gathered crowds into desired areas or directions;
- (2) to block entirely narrow streets and to create safe and effective access control to protected areas and buildings;
- (3) to execute direct observation and monitoring of the operational situation;
- (4) communication with rioters through the loudspeakers;
- (5) for some anti-terrorist operations, fighting against snipers, allowing a safe access to buildings and other elevated positions;
- (6) with use of the shield it can be flexibly used for removal of smaller obstacles;
- (7) with use of an easy attachable bulldozer blade it can be flexibly used for removal of bigger obstacles.

BOZENA RIOT provides higher level of safety and security for the police forces on one side as well as better handling with the passive and not violent members of the crowd on the other side.

BOZENA RIOT SYSTEM consists of the following main parts:

A. CARRIER - Prime mover

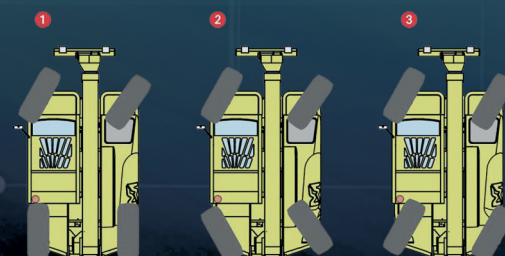
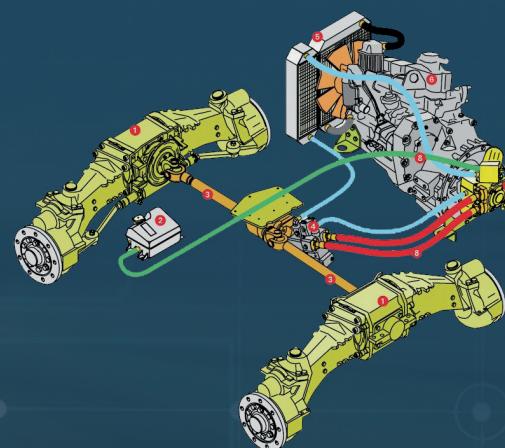
Carrier of the **BOZENA RIOT** is in principle a telescopic handler with hydrostatic power transmission. The vehicle is significant with its compact design, unequalled maneuverability and performance.

The operator has the advantage of spacious cabin with convenient operator controls and clear instrument panel which can be read in all lighting conditions adjusted with cameras and monitors for frontward and backward views.

The operator's cab is covered with **ARMOX 500T** armoured plates and windows are filled with **ISOCLIMA** bullet proof glass satisfying **FB6** level of ballistic protection (7.62x51 mm NATO ball). Its structure complies with **ISO 3449 (FOPS)** and **ISO 3471 (ROPS)** standards.

Hydrostatic transmission provides precise and accurate control, even at high engine power and at travel speed up to 40 km/h. An electrically selected, two-speed gearbox connects the hydrostatic motor output to the conventional main power line. The Inching-Control pedal proportionately reduces travel speed for hydraulic operation e.g. during manipulation, lifting or movement with the Shield. The hydraulic system is supplied by a 100 lpm gear pump, so the flow rate is always directly proportional to engine speed and provides maximum loading capacity 4000 kg sufficient for safe handling with the Shield.

The Carrier is fitted with a 4-cylinder Deutz Turbo Common Rail low emission turbocharged engine. Water cooled, it develops 140 HP at 2400 rpm. The engine with the high level of power and torque available secures the sufficient speed and performance for safe and maximum effective handling with the Shield and its output is sufficient to resisting pressure of the crowd of approx. 100 rioters.



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The engine is mounted to the right side of the chassis, ensuring easy access and maintenance from the ground. The tool box for field maintenance is provided with the Carrier.

The sections comprising the telescopic boom are constructed of U-shaped steel fabrications welded together close to their neutral axes. The boom is connected to the Shield with a coupler, the connection and full preparations to the operation will take maximum 10 minutes. An easy to mount and dismount front dozer blade attachment can be connected to the boom and utilized for obstacle removals.

The braking system has two independent circuits for safety and ease of operation. An independent disc parking brake is located on the main transmission shaft. Transmission breaking is immediately available by releasing accelerator pedal.

The four drive wheels are all steered using a hydraulic servo-assisted system. Highly resistant run-flat-tires are resistant to oil, wear and bullets punctures. The operator has a choice of three steering modes, as well as automatic wheel re-synchronization in the event of misalignment.

Three steering modes:

1. Front wheel steer (for road use)
2. All wheel steer (for best maneuverability)
3. Crab steer (for side motion)

An advanced fire protection system consists of three independent fire suppression systems for engine compartment, Carrier's outer envelope and tires. The system is activated automatically whenever a fire occurs in a close distance of the Carrier. An additional hand held fire extinguisher is attached to the Carrier's cab.

B. SHIELD - Barrier

Shield of BOZENA RIOT SYSTEM is foldable; the minimum width is 4.5m and maximum 7.5m. The operator can adjust the required shield's width through hydraulic system. Maximum height is 3.7m and the lifting platform barrier reaches to 4.7m. The Shield's weight is 3000kg.

It can be lifted and effectively used as a gate for an instant deployment of rapid reaction forces. The shield's frame as well as the lifting platform are made of the lightweight aluminium composite covered up to height of 2 m from the ground with ARMOX 500T steel plates which provide the FB6 level of ballistic protection (7.62x51 mm NATO ball) and it is also flame retardant. The Shield construction secures best possible conditions for protection of the law enforcement units.

Eight visors (windows) filled with ISOCLIMA bullet proof glass provide good conditions for visual observation and monitoring of the crowd situation. The shield comes equipped with launching ports designed for use of guns or other rubber projectiles launchers. Powerful xenon lights provide good visibility at night and two spot lights on top of a lifting platform can be directly operated by the police. The lifting platform is designed to bear two fully equipped members of the riot-control unit.

Water cannon placed at the platform serves to disperse violent crowd. The tear-gas sprayer with four nozzles on the shield's top rim is intended for the close self-defence of the Shield in case of direct attacks of rioters. The tear-gas covers an area of 10 m in front of the Shield. The shield is equipped with police lights, siren and loudspeaker for use by the commander/leader, both for instructing the crew and also for appealing to the rioting crowds.



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C. WATER TRAILER

Water trailer provides the significant anti-crowd feature to the BOZENA RIOT SYSTEM. It can be used as a standalone and fully independent unit as well as mobile equipment hitched to the Carrier. In both cases, the trailer is capable of displacing the water/foam or its mixtures (available additives: pepper or painting substances) under the high pressure into the distance of several dozen meters.

Water trailer can be secured with the FB3 level of ballistic protection.

Water trailer contains:

- water compartment, capacity of 3000 ltrs (stainless steel)
- foam/additives compartment, capacity of 100 ltrs
- foam/additives proportioning system
- portable high-performance water pump TOHATSU VC85BS
- two suction hoses 102 mm (4 inch) diameter
- water cannon (disassembled for transport)

One of the two water cannons is located in front upper part of the Shield, on top of the lifting platform. This front edge cannon can be operated remotely from the driver's cab or by crew from the hydraulic lifting platform. High position of the water cannon (up to 4.5 m) with an attached coaxial camera gives perfect overview of the situation with ability of dispersing rioters instantly, effectively and safely (protected by the Shield). The second (rear) cannon is attached with quick coupler to the top of water trailer and can be used in any direction i.e. against a crowd approaching from sides or rear, extinguish burned vehicles in the street, houses, etc.

An important advantage of BOZENA RIOT SYSTEM equipped with detachable water trailer is its firefighting potential for protection of the Carrier and Shield in case of massive fire attacks (standard water trucks usually find difficult to quench it by their own cannons located on the top and during the front move or pull back maneuvers). Extinguish of local fires caused e.g. with Molotov cocktails, incendiary grenades, etc.) can also be done with a portable fire extinguisher fixed at the Carrier.

Moreover, the water trailer is capable of linkage to various external natural and industrial water sources, such as rivers, lakes, street hydrants, water tanks or water trucks. It can be hitched and transported by variety of different carriers/trucks which makes this tool flexible in emergency operations.

BASIC TECHNICAL PARAMETERS OF BOZENA RIOT SYSTEM

Dimensions

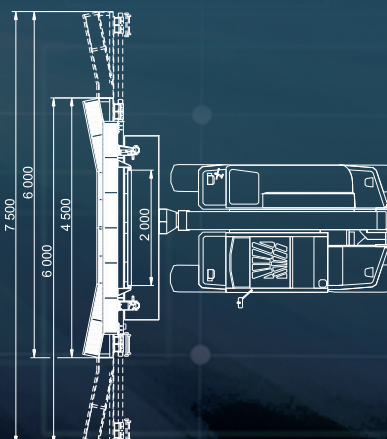
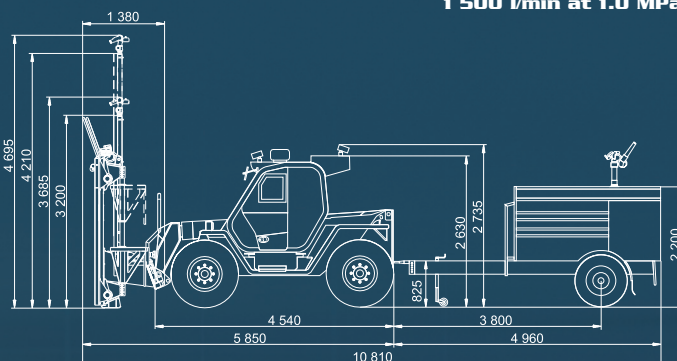
Length of Carrier with Shield	5 850 mm
Length total with water trailer	10 810 mm
Length of Carrier	4 540 mm
Length of Shield	1 380 mm
Length of water trailer	4 960 mm
Height of Carrier	2 630 mm
Height of Carrier with camera	2 735 mm
Maximum height of Shield	3 685 mm
Maximum height of Shield with platform	4 695 mm
Height of water trailer	2 250 mm
Height of water trailer with water cannon	2 910 mm
Width of Carrier	2 355 mm
Minimum width of Shield	4 500 mm
Maximum width of Shield	7 500 mm
Width of Shield with one wing outspread	6 000 mm
Width of lifting platform protection guard	2 000 mm
Width of water trailer	2 140 mm

Weights

Weight of Carrier with Shield	12 100 kg
Weight total with water trailer (with water)	14 800 kg (18 300 kg)
Weight of Carrier	9 100 kg
Weight of Shield	3 000 kg
Weight of water trailer (with water)	2 700 kg (6200 kg)

Performance

Engine low emission (EURO 3) Deutz, turbo, Common Rail	
Power at 2400 rpm	140 HP (103 kW)
Rated maximum load	4 000 kg
Maximum speed	40 km/h
Maximum lift height	7 m
Maximum forward reach	3,5 m
Water trailer	
Water tank capacity	3 000 ltrs
Foam tank capacity	100 ltrs
Water pump performance	
	2 050 l/min at 0.6 MPa
	1 800 l/min at 0.8 MPa
	1 500 l/min at 1.0 MPa



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