



Tactical & Technical Data:

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	HBS Heavy Ballistic Shield with Gear Chassis class VPAM7 + TBO5CZ
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1. Selected ballistic classes for ballistic shields

1.A.

Selected ballistic protection against pistol calibers: IIIA, TBO2CZ

W.A.R. Ballistic shield designed against pistols calibers are possible to be worn also on human body; therefore we focus on low trauma achievement. All ballistic shields are certifying in notify laboratory.

Levels of ballistic protection:

W.A.R. Ballistic shields category IIIA+ fulfils the ballistic certification on resistance of IIIA class according to the American Standard NIJ 0101.04 which represents the following certified resistance:

- .. 9mm Luger FMJ RN, bullet weight 8.2 g, bullet velocity 436 m/s
- 2. .44 Magnum SJHP, bullet weight 15.6g, bullet velocity 436 m/s 2
- + sign is marked by increased resistance to supplementary ammunition: $7,62 \times 25$ Tokarev, bullet weight 5,5 q, FMJ, V = $540 \pm 7,5$ ms-1,

W.A.R. Ballistic shields category TBO 2 CZ fulfils the ballistic certification on resistance of TBO 2 CZ class according to the Czech-Slovakia standard ČSN 39 5360, where maximum 25 mm trauma is allowed, represents the following certified resistance:

7,62 x 25 Tokarev, bullet weight 5,5 g, FMJ, V = 470 ± 10 ms-1,

W.A.R. Ballistic shields in category IIIA+ and TBO 2 CZ are symmetrical composition and it is not necessary to determine body side of ballistic insert.

W.A.R. Ballistic shields category TBO 4 CZ fulfils the ballistic certification on resistance of TBO 4 CZ class according to the Czech-Slovakia standard ČSN 39 5360, where maximum 25 mm trauma is allowed, represents the following certified resistance: $7,62 \times 25$ Tokarev, bullet weight 5,5 g, FeCore, V = 540 ± 7,5 ms-1,

W.A.R. Ballistic shields in category TBO 4 CZ are not symmetrical composition and it is necessary to determine body side of ballistic insert.

Another ballistic classes should be designed and certify according customer requirements or according ballistic tables listed below.

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1.B. Selected ballistic classes against rifle calibers:

W.A.R. Ballistic shields category TBO 5 CZ

fulfils the ballistic certification on resistance of TBO 5 CZ class according to Standard ČSN 39 5360 which represents the following certified resistance:

1. 7.62x39 mm Mild Steel Core, bullet weight 8 g, bullet velocity 710 m/s resp. 730 m/s

W.A.R. Ballistic shields category TBO 5 CZ +BZ

Ballistic shield with marked TBO 5 CZ +BZ are reinforced to resist armor piercing calibers: 7,62 x 39, bullet type FEJ BZ, weight 7.5 g, velocity 730 m/s +- 10 m/s

Additional resistance against "Dragunov" calibers:

 $7,62 \times 54 R$, bullet type FeCore, weight 11.7g velocity 802 m/s $7,62 \times 54 R$, bullet type FMJ, weight 11.7g velocity 820 m/s $7,62 \times 54 R$, bullet type FeCore, weight 9.6g velocity 869 m/s

Reinforced shield version certified against (optional):

7.62x54 R, FMJ/PB/HCI, B32 type, bullet weight 10.4 g, bullet velocity 860 m/s -+10 ms

W.A.R. Ballistic shields category VPAM 6

fulfils the ballistic certification on resistance of VPA6 class according to Standard Prufrichtlinie APR 2006 which represents the following certified resistance: 7.62x39, FMJ/PB/FeC, bullet weight 8 g, bullet velocity 920 m/s -+10 m/s

W.A.R. Ballistic shields category VPAM 7

fulfils the ballistic certification on resistance of VPAM7 class according to Standard Prufrichtlinie APR 2006 which represents the following certified resistance:
.223 Rem. FMJ/PB/SCP, bullet weight 4 g, bullet velocity 950 m/s -+10 m/s
.308 Win. FMJ/PB/SC, bullet weight 9.55 g, bullet velocity 830 m/s -+10 m/s

W.A.R. Ballistic shields category VPAM 8

fulfils the ballistic certification on resistance of VPA8 class according to Standard Prufrichtlinie APR 2006 which represents the following certified resistance: 7.62x39, FMJ/PB/HCI, BZ type, bullet weight 7.7 g, bullet velocity 740 m/s -+10 m/s

W.A.R. Ballistic shields category VPAM 10

fulfils the ballistic certification on resistance of VPA10 class according to Standard Prufrichtlinie APR 2006 which represents the following certified resistance:

7.62x54 R, FMJ/PB/HCI, B32 type, bullet weight 10.4 g, bullet velocity 860 m/s -+10 ms

W.A.R. Ballistic shields category Level IV +B32

fulfils the ballistic certification according to Standard NIJ 0101.04 in ballistic class Level IV which represents the following certified resistance:

30-06 Springfield, FMJ/FeC type M2 AP NATO, weight 10.8g, velocity 869 m/s ± 9.1 Including resistance against:

7.62x54 R, FMJ/PB/HCI, B32 type, bullet weight 10.4 g, bullet velocity 860 m/s -+10 m

Ballistic material is not symmetrical composition and it is necessary to determine body side of ballistic insert. Another ballistic classes should be designed and certify according customer requirements or according ballistic tables listed below.

2. Light Ballistic shields

Designed for ballistic protection of upper body part. Thanks to its ballistic composition the shield eliminates the projection of shrapnel from the projectile when hit. Universal handle adjustable into all directions enables the operation with right and left hand. Protective rubber edge with steel brace protects against mechanical damage and during manipulation. Velcro for attachment of identifying signs. Black matt color (other colors available upon request) with standard water-proof design.

Shields are delivered with high-quality transportation bag (transportation case with Molle system with the option for wearing on the back) in order to extend their lifetime and ensure problem free transport.

Basic size for intruding through the windows and doors: 450 mm x 600 mm (width x height), other sizes available upon request.

Light ballistic shields dimension 450x600mm can be produced in the following ballistic classes:

LBS Category IIIA according NIJ 0101.04 (ultra-light ballistic shield)	weight 4.2 kg
LBS Category IIIA according NIJ 0101.04 according to ČSN 39 5360 (shield with massive construction designed for rough manipulation)	weight 11 kg
LBS Category III according to NIJ 0101.04 or TBO 5 CZ according to ČSN 39 5360	weight 7.5 kg
LBS Category Level IV according to NIJ 0101.04 or TBO 7 CZ according to ČSN 39 5360	weight 8.5 kg







Lifetime warranty



10-years
warranty period
or the ballistic
resistance for
determined
ballistic class.
Outer shell
and a transport
bag is provided
standard
warranty period
for two years,
representing 24
months

LBS service temperature range:



long-term
-20°C to 60 °C

short period -30°C to 90 °C

relative humidity up to 95%

Optional additional equipment:



Strong 600 lumens 4 led light with stroboscope

Polycarbonate visor or periscope



3. Modular shields

- 3.A. Ultra-light Soft Handling Modular Shield type USHS, class IIIA, TBO5CZ, Gost 5
- 3.B. Ultra-light Soft Handling Modular Shield type USHS 600x600x2, class IIIA
- 3.C. Modular Shield type 725x400x2, class VPAM 7 / TBO 5CZ

Special modular shields designed for rapid deployment. Modularity of shields enables to create a shield of required dimensions and ballistic resistance in a short while.

Handle variability enables comfortable manipulation with left and right hand. Adjustable straps enable to wear the shield on the back as well as in functional protective position. Velcro zips on surface for attachment of identifying signs. System Molle enabling to clamp various functional cases to the shield, commonly located on the outer side and all areas accessible to the user. Standard water-proof design.

Shields are delivered with high-quality transportation bag (transportation case with Molle system with the option for wearing on the back) in order to extend their lifetime and ensure problem free transport.

Certify Ballistic resistance:	IIIA according NIJ 0101.04 TBO 5 CZ according to ČSN 39 5360 Level 5 according GOST R 50744-95 VPAM 7 according Prufrichtlinie APR 2006 Another class upon customer request
Dimensions for model USHS IIIA/TBO5CZ:	Basic plate 390 mm x 600 mm (w x h) Bottom plate 390 mm x 295 mm (w x h) Side plate 220 mm x 390 mm (w x h) Other dimensions and forms available upon request of the user
Total weight of complete:	4.9 kg class IIIA 10.6 kg class TBO5CZ



Selected range size USHS class IIIA:

Model	Dimension	Weight (kg)	Protected area (cm2)
Module LBS USHS SAS IIIA 390x600	390 x 600 mm	2,8	2340
Module LBS USHS SAS IIIA 390x295	390 x 295 mm	1,05	1150
Module LBS USHS SAS IIIA 390x220	390 x 220 mm	0,85	858
Module LBS USHS SAS IIIA 390x220	390 x 220 mm	0,85	858
Module LBS USHS MP IIIA 600x600	600 x 600 mm	3,9	3600
Module LBS USHS MP IIIA 600x600	600 x 600 mm	3	3600
Module LBS USHS MP IIIA 400x725	400 x 725 mm	3,2	2900



Optional equipment:



Heavy-Duty periscope

Flop up periscope

Ballistic glass visor

Multiple camera view system

Strong led lights with stroboscope

Fix of flop up gear with 3 or 4 main wheels

Supporting harness for installation on ballistic vest

Ballistic blanket

Lifetime warranty



10-years
warranty period
for the ballistic
resistance for
determined
ballistic class.
Outer shell
and a transport
bag is provided
standard
warranty period
for two years,
representing 24
months

USHS service temperature range:



long-term
-20°C to 60 °C

short period -30°C to 90 °C

relative humidity up to 95%





4. Medium ballistic shields

Medium Ballistic Shield MBS 1100 x 550 mm class TBO5CZ

Designed for ballistic protection of the whole body, excluding bottom part of legs. Shield is worn with wearing straps ensuring the transfer of the weight of the shield directly to the legs of the user. All-aluminium universal single-handed and both-handed handles enable easy manipulation with shield. Ergonomics of holding the shield is provided by complete setting of individual parts. Black matt colour in standard water-proof design. Ballistic composition of the shield eliminates the projection of shrapnel from the projectile when hit.

Dimension:	Main shield: 550 x 1100 mm (width x height) Small shield: 500 x 200 mm
Weight:	from 19 kg to 34 kg depending of used equipment and ballistic class
Orientation:	ensured by an extendable periscope with basic dimension of the visor 240 x 80 mm, periscope can be tilted horizontally; mirroring parts of the periscope are treated with specialised Nano technological layers eliminating fogging
Lights:	periscope is equipped with 2 x 700 lumen L lights with pre-set operation (3 x levels of intensity, 1 x stroboscope) with the option to adjust the beam direction

4. B. Medium-Modular Ballistic Shields type "Cobra" 2x725x400mm or 1x725x400+1x400x800mm and with 3W Chassis, class WPAM7/TB05CZ with wide panorama shield visor.

Modular shields designed and produced right according individual needs of special police force units. Preferred ballistic resistance class VPAM7 + TBO5CZ or VPAM7+VPAM8.

The "Cobra" shield consists of two main independent shields and 2 or 4 side parts. Individual shields can be connected in to the chassis base and create a single shield with a total height of 180 or 190 cm (with overlapping of the ballistic shields).

The chassis has system for wheels suspension. The rear wheels are equipped with the foot brake.

Dimensions:		
Each main shield	Height	800 mm (with wide panorama visor) 725 mm (without visor)
Each main snield	Width	400 mm
Cide shield and	Height	400 mm or 650 mm or 850mm
Side shield parts	Width	220 mm or 250 mm
Weight:		
Main shield part without visor (725x400mm) VPAM7 + TB05CZ: 10.5kg		

Prolonged variant of MBS by fixed mounting of small ballistic shield (200 x 500 mm) on bottom part of main shield:





Optional additional equipment:



Flop up periscope

Basic wheel camera system

Strong led lights with stroboscope

> **Carrying** harness



4. C Medium ballistic shields type 1600x600 3W/4W Gear Chassis

Shields designed and produced right according individual needs of special police force units. Preferred ballistic resistance class VPAM7 + TBO5CZ. Shield equipped with sprung strong chassis, designed to overcome various barriers.

	Dimensions:
Total height:	1400-1800 mm
Width:	50-60 cm, preferred 600mm
Weight of main shield plate with visor:	max. 43.8 kg
Weight chassis with single front wheel:	21 kg
Weight chassis with dobrle front wheel:	22.4 kg





Additional, removable ballistic protection (fixed by Velcro): IIIA according NIJ 0101.04

Additional ballistic protection can be withdrawn if necessary from the base and used as separate ballistic shields







Optional equipment:

Heavy-Duty periscope or Flop up ultra-light periscope

Panorama visor

Multiple camera view system

Strong led lights with stroboscope

Ballistic blanket

Orientation:

4 cameras system with 8" monitor

Transport position:

allows transporting of the separate shield plate and separate chassis

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Prototype of Medium Modular Ballistic Shield type 2x590x900 mm 3W/4W Gear Chassis (category Gost 5A/6)

The shield consists of two independent shields, each with base dimensions 590 mm x 900 mm (width x height). Individual shields can be connected to the chassis base and create a single shield with a total height of 170 cm to 190 cm (with overlapping of the ballistic shields). Height of the lower edge of the shield placed to the chassis from the ground is 50 mm. The chassis has independent wheels suspension. The rear wheels are equipped with the foot brake.





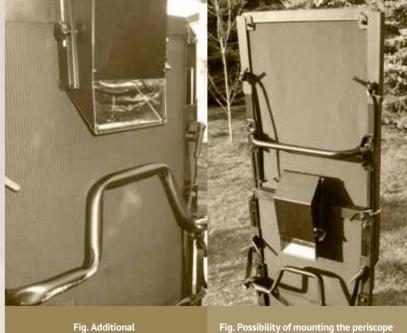


Fig. 2. Shield mounting overall height 170 cm



	Height	59 cm
Each shield	Width	90 cm
	Ballistic area	5 215 cm2
	Weight:	
Each shield	Frame with handles (for exact num. type of handles need to be specify)	from 4 to 5 kg
	Ballistic panel category 5A & 6	from 21 to 22 kg
	Total weight of one shield (without periscope or window)	from 25 to 27 kg
	Periscope weight	1.8 kg
	Periscope weight Ballistic window weight (size of window 180x80 mm)	1.8 kg 2.5 kg
81		
8.	Ballistic window weight (size of window 180x80 mm)	2.5 kg
	Ballistic window weight (size of window 180x80 mm) A. Total weight of 1 shield (59 x 90 cm)	2.5 kg from 25 to 27 kg

M 5
Optional
equipment:
Heavy Duty posic
Heavy-Duty perison
Flop up perisco
Basic wheel camera systen
camera system
Multiple camer view system
Strong led ligh with stroboscop
Ballistic blanke from category l
Double front wheel system
Carrying harne



5. Heavy ballistic shields

5. A HBS Heavy Ballistic Shield with Gear Chassis, class VPAM7 + TBO5CZ

Class of ballistic resistance VPAM7 and TBO5CZ (other classes according to other standards available upon request)

Shield is designed for ballistic protection of the whole body. Orientation is ensured by an extendable periscope with basic dimension of the visor 240×80 mm, periscope can be tilted horizontally. Mirroring parts of the periscope are treated with specialized Nano technological layers eliminating fogging. Periscope is equipped with 2×700 lumen L lights with pre-set operation (3×10^{-2} levels of intensity, 3×10^{-2} lumen below the option to adjust the beam direction

All-aluminum universal single-handed and both-handed handles enable easy manipulation with shield. Ergonomics of holding and driving the shield is provided by complete setting of individual parts Thanks to its ballistic composition the shield eliminates the projection of shrapnel from the projectile when hit.

Complete weight: 60kg.

Dimension:

basic: $620 \text{ mm} \times 1620 \text{ mm}$ (width x height) with open kit: $60 \text{ mm} \times 1620 \text{ mm}$ (width x height) other

dimensions available upon request8

5.B. Heavy ballistic shield type "ZED" class TBO 5CZ

Ballistic safety shield on wheel gear chassis with electric drive all 6 wheels. The shield composed from rotational ballistic shield turret and ballistic protected chassis.

	Main ballistic protection:	
	Rotational ballistic shield turret:	TBO5CZ according ČSN 39 5360
	Chassis:	TBO5CZ according ČSN 39 5360
Additional, removable ballistic protection:		
	Rotational ballistic shield turret:	IIIA according NIJ 0101.04
	Chassis:	IIIA according NIJ 0101.04
	Additional ballistic protection can be withdrawn if necessary from the base and used as separate ballistic shields Orientation:	
	provides extensible periscope with 2x 700 Lumen lighting with the possibility of using the strobe mode, an inlet section	

periscope mirror cut in the horizontal plane to set the "control" view just for the front wheels







Drive:	electric with a smooth start, set the limit speed, cruise control, remote control option, 36V electrical system, replacement reserve batteries in 30s
Steering:	skid using hydraulic brake components provide appropriate management ergonomics
Chassis:	6x6, hydraulic steering with hydraulic tilt lock gable tower design allows overcoming barriers to a minimum height of 40 cm and also the movement of the stairs
Dimensions:	
Total height:	177 cm
Height without periscope:	166 cm
Width shield tower:	
Closed position:	62 cm
Open position:	84.5 cm
Chassis:	
Width:	72.5 cm
Length:	100 cm
Wheel diameter:	32 cm
Wheel width:	8.5 cm

Transport posit

allows transporting of the shield load compartment for cars type Mercedes Vito (Vito), Volkswagen Transporter (Caravella) using aluminum loading ramps that are part of the equipment shield





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