

iNspectoR

for special
missions



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PIAP

NOWOCZESNOŚĆ SKUTECZNOŚĆ DOŚWIADCZENIE

Unique features of Inspector robot:

- The Inspector can tow vehicles left in any gear of a mass of up to 1500 kg.
- Front caterpillars (remote control of tilt angle) increases traction abilities, longitudinal stability and enable smooth motion on stairs, as well as highly uneven terrain.
- The manipulator is able to lift 30 kg on extended arms and 60 kg on folded arms.
- The turn of the manipulator's base amounts as much as 400°.
- Constant spatial orientation of the object placed in the gripper, irrespective of the movement of other manipulator arms, enables precision manipulation of hazardous devices.
- Control system of the robot enables to control all of its drives at the same time.
- A program for automatic folding of the manipulator down to a transport position speeds up and makes easier preparing the robot for transport.



Basic features of Inspector robot:

- Width of the mobile base enables to drive through standard doors (70 cm) and to move around the interiors of residential and office buildings.
- The robot is powered by batteries installed inside the mobile platform or through a cable plugged into the 230V power network.
- The maximum operation time when powered by batteries is 2 to 8 hours (depending on the operations).
- During the external power supply (by cable) the batteries are automatically recharged.
- Inspector is equipped with 4 color cameras: on the gripper, in back and front of the robot and on the manipulator (the main camera which may be turned completely around 360° and 90° up and down).



- The manipulator is equipped with:

manipulator arms extreme position sensors,

positions sensors in main manipulator's degrees of freedom,

gripping force sensor,

sockets for fixing, so-called 'whiskers' on the gripper's master jaw (for visual estimation of distance),

an omni directional microphone.



- Special driving system reduces recoil effect when firing from the pyrotechnical disrupter or in case of explosion of the load placed in the gripping device or its vicinity.
- The operator's post is equipped with three LCD monitors, which show, apart from the view from chosen camera, a graphic interpretation of the manipulator arm and front caterpillars configuration.
- Time of the operation when powered by batteries of the operator's post together with the console is approximately 4 hours, and the portable console gives 3 hours additionally, what guarantees total 7 hours of the operation.
- Robot can be controlled by radio or by cable.
- Control cable is light and mechanically resistant.
- Fluent velocity control of all the drives from 0 to maximum speed ensures high precision of operation. There is a possibility of the reduction of maximal velocity allowing precision of performed operations (after pushing an appropriate button, the maximum velocity reduces itself to 20 %).
- Audio signal of emergency situations in the control console alerts operator in case of irregularity in robot's function.
- Illuminated keyboard of the control console enable to control in the dark.



The Inspector robot can replace man in situations when human life or health is endangered.



In its class, the inspecting and neutralising (EOD/IEDD) Inspector robot is distinguished by its great lifting capacity and the ability to travel in difficult terrain and to overcome its uneven surface and high obstacles.

Typical usage:

- Inspection, transportation and neutralisation of hazardous material,
- Support for counterterrorist operations,
- High-risk hazardous environments missions,
- Building protection and supervision,
- Cooperation with the Expert or other robot.



Technical description:

Dimensions of the robot	1710/670/1140 mm (length/width/height)
Gross weight	550 kg
Remote control	over the radio/by cable
Range of radio transmission	
outdoor	800 m
indoor	80 m
Cable (control, vision, battery charge)	cables: 5 m and 100 m, cable roll up device, cable runner mounted on the robot
Time of robot's operation on battery power supply	2 – 8 hours
Number of degrees of freedom	6
Maximum load	
on folded arms	60 kg
on unfolded arms	30 kg
Robot's cameras	4 color cameras with halogen headlights (2 x 20W) or high power light-emitting diodes (LED)
Dimensions of the operator's post	
unfolded	2360/670/800 mm
folded	1590/670/600 mm
Weight of the operator's post with the portable control console	107 kg
Vision monitor	15" LCD (color)
Time of the operator's post operation on battery power supply	4 hours (operator's post with the console) + 3 hours (portable console) = 7 hours
Visualisation of the sensors data	supplementary LCD color monitor, LED indicators
Portable control console weight	9,5 kg

Optional equipment:

- Holder/muzzle brake (anti-recoil) mechanism with laser sight for shotguns (with the possibility of automatic firing from the control panel) with assured auto reloading of the weapon.
- Holder/muzzle brake (anti-recoil) mechanism with laser sight for disrupters with the option of remote activation from the operator's post.
- Handle and cabling for the Golden Inspector XR-200 X-ray.
- Set of additional batteries for the robot.
- Set of additional batteries for the operator's post.
- Set of additional batteries for the portable control console.
- Set of clamps for the gripper:
 - longer than standard,
 - bent at 90°.
- Device for breaking car windows.
- Device for towing cars.
- Devices for charging of two additional batteries for the robot.
- Device for cable wind and unwind (100 m).
- Camera recording the robot's and microphone signals on an internal video recorder with cabling.
- Other instruments for radio transmission (control data, vision, sound) with a wide spectrum of power and frequency.
- Wide variety of chemical sensors.
- Wide variety of radiological sensors.

The equipment of the robot can be extended with other devices chosen by the client or developed at the order. It is also possible to modify the robot to adapt it to the needs of individual clients.

Because of constant development of the products offered, the product presented in this brochure may differ from the one offered currently.