

HRB-PROTECTOR

PATENT 2017/04667



GENERAL DESCRIPTION

Optima HRB-PROTECTOR series hydraulic crash-tested retractable bollards are specially designed for entrances that have very high-security requirements to keep vehicle access under control. In addition to the control of vehicle access in high-security applications, if there is a threat of vehicle attack from high tonnage vehicles with high speeds, it is not possible for the vehicle to keep on moving forward anymore beyond the bollards as crash-tested bollard destroy the vehicle completely.

Optima crash-tested protector series bollards are designed for the ASTM F2656M-15 crash rating (equivalent to PAS68, K12). The actual test was fully successful and the product is certified according to ASTM F2656M-15 (grade P1, zero penetration). Even after the crash, Optima HRB-PROTECTOR bollard was still operational.

HYDRAULIC POWER UNIT AND CONTROL ELECTRONICS

All the hydraulic components are tested at 250 bars although normal operating pressure is around 80-120 bars. The manual hand pump is standard in HRB-PROTECTOR series bollards, therefore in case of power failure, it is possible to raise and lower the bollard by a manual hand pump. The typical raise/lower time is 3-5 sec. The accumulator integrated with the hydraulic power unit for emergency fast raise in 1.5 seconds and cycle of operations after power off (optional). Coolers or heaters are can be integrated into the hydraulic power unit in extreme weather conditions (optional). Bollards are controlled with the help of advanced microelectronics. Two push-button operator keyboards with emergency stop are standard; one desktop, the other being integrated with the hydraulic power unit. AC electric motor is driven by a contactor and protected by a thermic breaker. The low current voltage required by the system is supplied by a switch-mode power supply. All the cables running in the system are color-coded and numbered to ease tracking.

STEEL STRUCTURE

The raising section of the bollard has a 350mm outer diameter and raised height is 1250mm. It is made of a steel tube that is a special type of high-strength steel, underground parts hot-dip galvanized, moving part 316 Stainless Steel Sleeved and Aluminium top flange with flashing lights. In lowered position bollard withstand 50 tons of axle load.

ENVIRONMENTAL CONDITIONS AND POWER REQUIREMENT

Between -15°C and +65°C, 95% non-condensing humidity; 380V, 3 phase, 50-60 Hz (or 220V/440V/etc, three phase, 50-60 Hz, optional by transformer).

INCLUDED ACCESSORIES

- ➔ Red/green traffic lights with steel pole.
- ➔ Dual vehicle safety loop detector.
- ➔ Flashing light on top of bollard.

OPTIONAL ACCESSORIES

- ➔ Safety photocell.
- ➔ Stand and casing for safety photocell.
- ➔ Protective construction(tubular) around drive unit.
- ➔ Hydraulic accumulator.
- ➔ Transformer to convert the power.
- ➔ Uninterrupted power supply (UPS).
- ➔ DC motor and pump with dry batteries.
- ➔ Submersible drainage pump.
- ➔ Wrong way alarm.
- ➔ High speed alarm.
- ➔ SCADA or any control system: It is possible to change and check the position of bollard with touch screen control panel, mobile devices (ios-android), computer, etc.

MODELS

- ➔ Raised height: 1250mm.
- ➔ Diameter: 0350.
- ➔ Groups: From 1 bollard to 4 bollards hydraulic power unit (3-5 sec),(1,5-sec Emergency Raise).
- ➔ Groups: From 5 bollard to 6 bollards hydraulic power unit (5-7 sec),(2,5-sec Emergency Raise).

MAIN BODY MEASUREMENTS AND FOUNDATION

