



## Pneumatic Rising Bollards



### General Description

Optima pneumatic rising bollards are designed for high security vehicle entrances, army, industrial, governmental and commercial buildings or streets which are closed to vehicle traffic between certain hours of the day. Both "High Security" and "Commercial" type Optima Pneumatic Rising Bollards have the same strength, whereas "Commercial" bollards are shorter than the "High Security" ones. The thickness of the bollard, the underground construction, the self-lubricating sealing and guide ring made of special plastic types, pneumatic piston, flange thicknesses and diameters, pneumatic connections, installation and drainage procedures etc. are all the same. These units are designed to K12 standards. Finite element analysis can be supplied upon request. Typical raise/lower time is 3 seconds but it is possible to design the system to raise/lower in 1.5 seconds.

### STEEL CONSTRUCTION

Raising section of the bollards is approximately 38 cm in diameter for HS series whereas it is 25 cm in C series. In HS series, full-length is 90 cm whereas in C series full-length is 60 cm. Road surface area is covered by a removable heavy duty plate on top of the bollard in HS series, to ease pneumatic connections. In lowered position bollard will stand 25 tons of axle load. All the machine elements forming the bollards are hot dip galvanized. Therefore formation of rust is prevented. Upon request, bollards from different materials like AISI 304/316 grade Stainless Steel or bollards with different dimensions can be manufactured.

### PNEUMATIC POWER UNIT WITH COMPRESSOR AND CONTROL ELECTRONICS

All the pneumatic components are tested at 25 bars although normal operating pressure is around 8-10 bars. Compressor with storage tank is standard in all PRR series, therefore in case of power failure it is possible to raise and lower the blocker by pressurised air in the tank. Control electronics utilized in pneumatic road blocker is PLC controlled. Two keyboards with emergency stop are standard; one desktop, other being integrated in the pneumatic power unit. 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. There is a fuse for every component in the system. All the cables running in the system are colour coded and numbered to ease tracking.

## ENVIRONMENTAL CONDITIONS AND POWER REQUIREMENT

Between -20°C and +75°C, % 95 non-condensing humidity, 380 V 50~60Hz (or 220 V, 50~60Hz, optional)

## OPTIONAL ACCESSORIES

1. Flashing or red/green lights
2. Radio control receiver, transmitter and antenna
3. Safety photocell, stand and casing
4. Inductive loop detector
5. Drainage Pump
6. Card Reader System
7. Bigger pressurised air storage tank
8. Uninterrupted Power Supply (UPS)
9. Different colors

## MODELS:

RAISE HEIGHT: From 250mm to 1250mm

MATERIAL: St52, AISI 304/316 Stainless Steel

Groups: From 1 bollard to 12 bollards per hydraulic power unit

