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## Tender Description

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### **Movable bollard M50**

Movable bollard M50 with integrated hydraulic aggregate including base frame, guidance, metal housing, cover plate and separate control unit for up to five bollard units.

#### **IMPACT LOAD/KINETIC ENERGY:**

1852 kJ (7.5 t @ 80 km/h)

crash test certified according to ASTM F 2656-07 M50/P2,  
PAS 68:2013 V/7500[N3]/80/90:5.2/7.8 and  
IWA 14-1:2013 V/7200[N3C]/80/90:5.5

#### **WHEEL LOAD:**

100 kN wheel load according to SLW60 - DIN 1072

#### **BOLLARD CONFIGURATION:**

Single unit

Double unit

Triple unit

Quadruple unit

Penta unit

#### **BLOCKING ELEMENT:**

Diameter: 355 mm

Wall thickness: 30 mm (steel)

Blocking height: 1100 mm

Blocking element complete with screwed on top plate

Optional: Blocking element fitted with stainless steel sleeve  
and stainless steel top plate

#### **LIGHTING (OPTIONAL):**

Bollard top lighting, Ufo-shape

Colour: LED red, white or yellow

#### **TAMPERING RESISTANCE (OPTIONAL):**

Reed contact for top plate and cover plate

#### **OPERATING TIMES:**

Raising: 5-6 sec

Lowering: 3-4 sec

Emergency Fast Operation (EFO): raising 2-3 sec  
(with optional accumulator)

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### **EMERGENCY OPERATION DURING POWER FAILURE:**

Bollard remains in raised position and can be lowered manually.

Optional: Accumulator and rechargeable battery pack for one raising movement with charged accumulator (RO1)

### **HYDRAULIC FLUID:**

Biodegradable hydraulic fluid Plantohyd 22 S, non-hazardous to water, or mineral oil HLP 22

### **HEATER (OPTIONAL):**

Heater for up to -30°C

### **ACCUMULATOR (OPTIONAL):**

Accumulator for Emergency Fast Operation (EFO) and one raising movement with charged accumulator during power failure (RO1) in connection with optional rechargeable battery pack

### **DRIVE:**

2.25 kW nominal power, 400 Volt AC, three phase, 50 Hz

### **SUPPLY VOLTAGE:**

400 V (3Ph + N + PE), 50 Hz

### **CONTROL:**

Control voltage 24 V

Max. distance between bollard and control unit: 50 m

PLC in control box IP 66 for wall installation inside a building

Available control unit configurations Standard, Plus, Vario or Vario RO1

Optional: socket SCHUKO type F, plug CEE 7/3 mounted on a top-hat rail inside the control box

### **OUTDOOR CONTROL CABINET (OPTIONAL):**

Control box installed in outdoor control cabinet complete with rain cover, hygostat, thermostat, heater, fan, hose-proof hood and outdoor coating

\*\*for control unit configuration Vario\*\*

HxWxD=1000x800x400 plus 200 mm socket

\*\*for control unit configuration Vario RO1\*\*

HxWxD=1200x1200x400 plus 200 mm socket

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### **LOCKING MECHANISM FOR OPTIONAL CONTROL CABINET:**

3-point locking system with double-bit insert

Optional: Folding lever handle with profile cylinder

### **CONTROL DEVICES (OPTIONAL):**

- push button "raise/stop/lower" or key switch "raise/stop/lower"
- key switch "fire brigade"
- anti-terror push button (for EFO)
- light beam system
- remote control receiver
- antenna for remote control receiver
- hand-held transmitter
- additional push button or key switch
- double loop detector
- key switch "Automatic on/off"
- traffic light red/green, D200
- signal horn for outdoor control cabinet or rotating beacon without warning time (active during movement of bollard)
- potential free contacts "bollard raised/lowered"
- reed contact for bollard top plate and cover plate
- door contact switch for optional outdoor control cabinet

### **FINISH:**

Blocking element: Standard RAL colour 6005, 7016, 7030, 7035 or 9010

Optional: Blocking element: Special RAL colour or

Blocking element fitted with stainless steel sleeve and stainless steel top plate

Bollard top plate: galvanised finish

Optional: Bollard top plate in RAL colour of blocking element or stainless steel bollard top plate (only in connection with stainless steel sleeve)

Cover plate: galvanised finish

Optional: Cover plate in RAL colour of blocking element

Metal housing: galvanised finish

### **INSTALLATION UNIT:**

The bollard M50 is delivered as a ready to install unit. The electro-hydraulic drive unit is integrated in the blocking element and factory-adjusted.

### **FOUNDATION:**

Reinforced foundation according to manufacturer's instructions

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**MANUFACTURER:**

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