



SECTION 32 39 13
MANUFACTURED METAL BOLLARDS
ALTERNATIVE SECTIONS 05 74 00 Decorative Metal Castings

**** NOTE ** Edit this guide specification to meet project requirements.**

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FAAC Group designs manufactures and distributes the most secure, innovative and functional solutions worldwide for every pedestrian and vehicular need: automatic access - parking - access control. FAAC Group satisfies the service and reliability needs of residential, commercial and industrial clients. FAAC Group makes the city move, creating automation that simplifies the lives of those who live there.

Today, after more than fifty years of business and thanks to steady growth in all areas of automation and access control, FAAC has turned into a large multinational industrial group with over 80 countries served by sales offices or official distributors.

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Hydraulic Automatic Retractable Bollards:
 - 1. Access Control - perimeter security application Hydraulic Automatic retractable bollards (Model JS 48 HA)

1.2 RELATED REQUIREMENTS

- A. Section 02 22 19 – Traffic Assessment
- B. Section 32 31 00 – Fences and Gates
- C. Section 34 71 13 - Paving and Accessories
- D. Section 03 30 00 - Cast-In-Place Concrete

1.3 REFERENCES

- A. Submit under provisions of Section 01 42 00 – References
- B. Abbreviations and Acronyms
 - 1. F: Type bollard (Static)

1.4 REGULATORY REQUIREMENTS

**** NOTE ** Delete the standard which are not applicable to your area**

- A. Submit under provisions of Section 01 41 00 – Regulatory Requirements
- B. - PAS 68: Impact test specifications for vehicle security barrier systems
- C. - IWA 14-1: Vehicle Security Barriers - Part 1: Performance requirement, vehicle impact test method and performance rating
- D. - ASTM F2656: Standard Test Method for Vehicle Crash Testing of Perimeter Barriers

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 33 00 – Submittal Procedures
- B. Product Data: Provide for each product equipment list, system description and manufacturer's data sheets, including:
 - 1. Product information, manufacturer's names and identification of product.
 - 2. Component connections and details.
 - 3. Storage and handling requirements and recommendations.
- C. Shop Drawings: Submit shop drawings showing layout, product components, including anchorage, excavation details and accessories:
 - 1. Drawings, including wiring diagrams.
 - 2. Risers, layouts, hardware location and accessories predispositions.
 - 3. Special wiring diagrams for optional configurations.
- D. Manufacturer's Instructions:
 - 1. Preparation instructions and recommendations.
 - 2. Operation and installation instructions and manuals.
- E. Manufacturer's Certificates: Certify products meets or exceed specified compliances
- F. Maintenance Data: provide manufacturer's maintenance instructions that include:
 - 1. Lists of periodic checking and maintenance programs
 - 2. Spare parts lists
 - 3. Equipment inter-connection diagrams

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Submit under provisions of Section 01 66 00 – Product Storage and Handling Requirements
- B. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and industry standards.
- C. Store products indoors in manufacturer's original containers and packaging, with labels clearly identifying product name and manufacturer. Protect from damage.

1.7 QUALITY ASSURANCE

- A. Submit under provisions of Section 01 43 00 – Quality Assurance
 - B. Manufacturer Qualifications:
 - 1. ISO 9001 Certified Manufacturer
 - 2. Manufacturer with minimum of 50 year experience
 - C. Installer Qualifications: Installation performed by installer specifically trained in bollards operation systems of the type found within this section.
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- D. Furnish bollards, all components and accessories by one manufacturer.

1.8 SITE CONDITIONS

- A. Submit under provisions of Section 01 71 00 – Examination and Preparation
- B. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- C. Verify installation required dimensions before installing.
- D. Ensure that excavating surface is appropriate for installation:
 - 1. The characteristic of the ground must guarantee sufficient solidity of the foundation plinth.
 - 2. No tubes or electrical cables should be present in the digging area.

1.9 WARRANTY

**** NOTE ** Apply special warranty provided by local subsidiaries**

- A. Submit under provisions of Section 01 78 00 – Closeout Submittals
- B. Manufacturer's Standard Limited Warranty:
 - 1. Warranty Period: 2 years of free repair or replacement from date of installation
 - 2. Special warranty extensions may apply

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: FAAC SpA, which is located at: Via Calari, 10 - 40069 Zola Predosa, Bologna – Italy / Tel: (+39)-051-61724 / Fax: (+39)-051-758518 / Email: info@faacgroup.com / Web: www.faacgroup.com
- B. Substitutions: Not permitted
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 25 00 - Substitution Procedures.

2.2 MODEL JS 48 HA

- A. Overall Description: Hydraulic Automatic retractable bollard for perimeter security applications. Thanks to the certified crash resistance, the product is targeted for the traffic control and the perimeter protection of sensitive areas.
 - B. Drive
 - 1. Hydraulic power unit (HPU)
 - 2. Power supply: 207 V~ ... 243 V~ _ 50/60 Hz
 - 3. Max Power consumption: 3.500 W
 - 4. Protection Class: IP67 (HPU)
 - C. Cylinder
 - 1. Height from ground: 1000 mm / 40 inches
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2. Diameter: 275 mm / 11 inches
 3. Material
 - a. Body: high performance steel
 - b. Sleeve: mDure® protective sleeve
 4. Head: Aluminium with Rilsan® resin coating
 5. Colour
 - a. Body: Dark grey with FAAC design
 - b. Head: Black
- D. Reflective strip
1. Height: 55 mm / 2.2 inches
 2. Colour: White
- E. Suggested Usage: Perimeter protection
- F. Resistance Force: Break-in: 673.000 J
according to:
- PAS 68: Impact test specifications for vehicle security barrier systems
 - IWA 14-1: Vehicle Security Barriers - Part 1: Performance requirement, vehicle impact test method and performance rating
 - ASTM F2656: Standard Test Method for Vehicle Crash Testing of Perimeter Barriers
- G. Performances
1. Operating Time
 - a. Rising: 6 s
 - b. Lowering: 2 s
- H. Ambient Temperature range
- a. Standard: -15°C + 55°C / 5°F + 131°F
 - b. With Heater: -40°C + 55°C / -40°F + 131°F (optional accessory)
- I. Features
1. Weight: 530kg / 1.170 pounds
- 2.3 MODEL JS 48 HA STAINLESS STEEL
- A. Overall Description: Hydraulic Automatic retractable bollard for perimeter security applications. Thanks to the certified crash resistance, the product is targeted for the traffic control and the perimeter protection of sensitive areas.
- B. Drive
1. Hydraulic power unit (HPU)
 2. Power supply: 207 V~ ... 243 V~ _ 50/60 Hz
 3. Max Power consumption: 3.500 W
 4. Protection Class: IP67 (HPU)
- C. Cylinder
1. Height from ground: 1000 mm / 40 inches
 2. Diameter: 275 mm / 11 inches
 3. Material
 - a. Body: high performance steel
 - b. Sleeve: mDure® protective sleeve
 4. Head: Aluminium with Rilsan® resin coating
 5. Colour
 - a. Body: Silver with satin finishing

- b. Head: Black
- D. Reflective strip
 - 1. Height: 55 mm / 2.2 inches
 - 2. Colour: White
- E. Suggested Usage: Perimeter protection
- F. Resistance Force: Break-in: 673.000 J
according to:
 - PAS 68: Impact test specifications for vehicle security barrier systems
 - IWA 14-1: Vehicle Security Barriers - Part 1: Performance requirement, vehicle impact test method and performance rating
 - ASTM F2656: Standard Test Method for Vehicle Crash Testing of Perimeter Barriers
- G. Performances
 - 1. Operating Time
 - a. Rising: 6 s
 - b. Lowering: 2 s
- H. Ambient Temperature range
 - a. Standard: -15°C + 55°C / 5°F + 131°F
 - b. With Heater: -40°C + 55°C / -40°F + 131°F (optional accessory)
- I. Features
 - 1. Weight: 530kg / 1.170 pounds

2.4 MODEL JS 48 HA EFO EMERGENCY FAST OPERATION)

- A. Overall Description: Hydraulic Automatic retractable bollard for perimeter security applications with option for an emergency quick rise of the cylinder . Thanks to the certified crash resistance, the product is targeted for the traffic control and the perimeter protection of sensitive areas.
- B. Drive
 - 1. Hydraulic power unit (HPU)
 - 2. Power supply: 207 V~ ... 243 V~ _ 50/60 Hz
 - 3. Max Power consumption: 3.500 W
 - 4. Protection Class: IP67 (HPU)
- C. Cylinder
 - 1. Height from ground: 1000 mm / 40 inches
 - 2. Diameter: 275 mm / 11 inches
 - 3. Material
 - a. Body: high performance steel
 - b. Sleeve: mDure® protective sleeve
 - 4. Head: Aluminium with Rilsan® resin coating
 - 5. Colour
 - a. Body: Dark grey with FAAC design
 - b. Head: Black
- D. Reflective strip
 - 1. Height: 55 mm / 2.2 inches
 - 2. Colour: White
- E. Suggested Usage: Perimeter protection

- F. Resistance Force: Break-in: 673.000 J
according to:
 - PAS 68: Impact test specifications for vehicle security barrier systems
 - IWA 14-1: Vehicle Security Barriers - Part 1: Performance requirement, vehicle impact test method and performance rating
 - ASTM F2656: Standard Test Method for Vehicle Crash Testing of Perimeter Barriers
- G. Performances
 - 1. Operating Time
 - a. Rising: 6 s
 - b. Rising time with EFO activation: 1.5s
 - c. Lowering: 2 s
- H. Ambient Temperature range
 - a. Standard: -15°C + 55°C / 5°F + 131°F
 - b. With Heater: -40°C + 55°C / -40°F + 131°F (optional accessory)
- I. Features
 - 1. Weight: 560kg / 1.235 pounds

2.5 MODEL JS 48 HA STAINLESS STEEL EFO EMERGENCY FAST OPERATION)

- A. Overall Description: Hydraulic Automatic retractable bollard for perimeter security applications with option for an emergency quick rise of the cylinder . Thanks to the certified crash resistance, the product is targeted for the traffic control and the perimeter protection of sensitive areas.
- B. Drive
 - 1. Hydraulic power unit (HPU)
 - 2. Power supply: 207 V~ ... 243 V~ _ 50/60 Hz
 - 3. Max Power consumption: 3.500 W
 - 4. Protection Class: IP67 (HPU)
- C. Cylinder
 - 1. Height from ground: 1000 mm / 40 inches
 - 2. Diameter: 275 mm / 11 inches
 - 3. Material
 - a. Body: high performance steel
 - b. Sleeve: mDure® protective sleeve
 - 4. Head: Aluminium with Rilsan® resin coating
 - 5. Colour
 - a. Body: Silver with satin finishing
 - b. Head: Black
- D. Reflective strip
 - 1. Height: 55 mm / 2.2 inches
 - 2. Colour: White
- E. Suggested Usage: Perimeter protection
- F. Resistance Force: Break-in: 673.000 J
according to:
 - PAS 68: Impact test specifications for vehicle security barrier systems
 - IWA 14-1: Vehicle Security Barriers - Part 1: Performance requirement, vehicle impact test method and performance rating

- ASTM F2656: Standard Test Method for Vehicle Crash Testing of Perimeter Barriers

- G. Performances
 - 1. Operating Time
 - a. Rising: 6 s
 - b. Rising time with EFO activation: 1.5s
 - c. Lowering: 2 s
- H. Ambient Temperature range
 - a. Standard: $-15^{\circ}\text{C} + 55^{\circ}\text{C} / 5^{\circ}\text{F} + 131^{\circ}\text{F}$
 - b. With Heater: $-40^{\circ}\text{C} + 55^{\circ}\text{C} / -40^{\circ}\text{F} + 131^{\circ}\text{F}$ (optional accessory)
- I. Features
 - 1. Weight: 560kg / 1.235 pounds

2.6 CONTROL UNIT

**** NOTE ** Add eventual extra accessories**

- A. Provide the Control Unit: Model JE275 integrated controller with 2 digits display, 8 digital inputs, 4 digital outputs (one equipped with a relay)
 - 1. Integrated Loop Detectors: 2 double channel loop detectors, with high sensibility
 - 2. Digital inputs:
 - a. Input voltage: 24 VDC
 - b. Total accessories max current: 500 mA
 - 3. Digital outputs: 2 open collector
 - a. Max switching voltage 24 VDC
 - b. Max switching current 100 mA
 - 4. Output relay: 1 normally open contact (isolated)
 - a. Max switching voltage: 24 VDC
 - b. Max switching current: 500 mA
 - 5. Maximum 8 pairs of bus photocells connectable
 - 6. Quick plugin connectors: BUS, radio receiver / decoding card
 - 7. Cycles counter
 - 8. Most I/O parameters are adjustable
 - 9. Most performances are adjustable: deceleration, torque, times.
 - 10. 10 pre-set adjustable operating logics
 - 11. Master/Slave configurations option available
 - 12. Display: 2 digit 7 segment LED 0,762 cm / 0.3 inches red segments.

2.7 ACCESSORIES

**** NOTE ** Add eventual extra accessories**

- A. Provide the required installation complement listed below:
 - 1. BOLLARD PIT JS HA PIT
- B. Provide the optional accessories listed below:
 - 1. Pit heater: to enlarge the operation temperature range to extreme low temperatures (as above specified).
 - 2. Emergency hand pump: allows to rise the cylinder in case of blackout.

PART 3 EXECUTION

3.1 EXAMINATION AND PREPARATION

- A. Verify that all site conditions, installation and operating conditions are compliant to the sections and manufacturer's requirements express in the instructions.
- B. Inspect and prepare substrates and surface properly in accordance to the manufacturer's recommendations.
- C. If preparation is the responsibility of another installer, notify Architect in writing of deviations from manufacturer's recommended installation tolerances and conditions.
- D. Clean surfaces thoroughly prior to installation.
- E. Verify that required drainage and electrical services are in place as required for the installation.
- F. Verify that the product surrounding area is clear from obstacle and flying electric wiring for proper beam motion
- G. It is suggested to provide an adequate protection against accidental impact if product will be exposed to vehicles, when possible

3.2 INSTALLATION

- A. Foundation
 - 1. Required excavation dimensions: 1.600 mm x 3.100 mm x 1.700 mm // 63 inches x 122 inches x 67 inches* (wide x deep x tall)
* add 10mm / 0.4 inches above the foundation to lay the pavement and 10mm / 0.4 inches below for the base of mud slab
 - 2. Concrete Specifications: Class C25/30 Concrete with 10-30 aggregate according to EN 12620 standard. Bollard shall be installed after at least 7 days of concrete setting
 - 3. Surrounding ground compacting index: $\geq 90\%$ of the Proctor optimum curve, according to EN 13286-2:2005 standard
- B. Install in accordance with manufacturer's instructions. Test for proper operation and adjust until satisfactory results are obtained.
- C. Clean all metal surfaces promptly after installation.

3.3 FINAL ADJUSTMENT

- A. Check safety devices and compliance to safety regulations, otherwise adjust parameters or replace defective parts until satisfactory results are obtained.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Prevent product from damage.
- C. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION