

**SECTION 105113**  
**DeBourgh VOLTA- METAL ACCESS CONTROL INTELLIGENT LOCKERS**

*The fields in YELLOW indicate optional requirements that should be edited to ensure that they meet the specific needs of each individual project.*

**PART 1 – GENERAL**

**1.01 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 specifications apply to this section.

**1.02 SUMMARY**

- A. This Section includes the following
  1. Welded Access Control Lockers, including the following:
  2. Radio-frequency identification (RFID) locks.
  3. Controllers.
  4. Information Terminals.
  5. Lock management software.
  6. Provide fasteners and anchorage devices to install lockers provided under this section.
  7. Provide metal filler panel to fill between banks of lockers and adjacent construction.

**1.03 SUBMITTALS**

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of locker and bench.
- B. Shop Drawings: Show lockers in detail, method of installation, fillers, trim, base, and accessories. Include locker numbering sequence information.
- C. Samples for verification: Submit one full-size locker sample for evaluation. Adherence to the specification is required. Locker submitted must meet specification regardless of manufacturer's standard product. Submit manufacturer's technical data and installation instructions for metal locker units.
  1. If a Job specific full size sample is required, please note that DeBourgh will need a minimum of 3 weeks lead time to build the special locker.
  2. All info required to build the job specific sample must be provided to DeBourgh before we can start fabrication.
- D. Maintenance Data: For adjusting, repairing and replacing locker doors and latching mechanisms to include in maintenance manuals specified in Division 01.

**1.04 QUALITY ASSURANCE**

- A. Uniformity and Single Manufacturer Requirements: Provide each type of metal locker as produced by a single manufacturer, including necessary mounting accessories, fittings, and fastenings.
- B. All of the sheet metal parts and all major metal components used to manufacture this product to be produced in the United States of America. No exceptions will be allowed.
- C. Installer/Supplier Qualifications: Installer/Suppliers, verifiably authorized and in good standing with the primary product manufacturers, with a minimum **3** years' experience supplying integrated access control systems similar in material, design, and scope to that indicated for this

project and whose work has resulted in construction with a proven record of successful in-service performance. Qualifications include, but are not necessarily limited, to the following:

### **1.05 COORDINATION**

1. Access Control System Electrical Coordination: Coordinate the layout and installation of scheduled electrified door hardware, and related access control equipment, with required connections to source power junction boxes, power supplies, detection and monitoring hardware and fire alarm system.
  - a. Access Control Hardware Sets: The hardware sets listed represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Packing and Shipping: Do not deliver metal lockers until building is enclosed and ready for locker installation.
- B. Storage and Protection: Protect materials from damage during delivery, handling, storage and installation.

### **1.07 WARRANTY**

- A. Locker manufacturer shall warrant the lockers (excluding locks) for the lifetime use of the original purchaser from date of shipment. Warranty shall include all defects in material and workmanship, excluding finish, vandalism and improper installation.

## **PART 2 – PRODUCTS**

### **2.01 MANUFACTURERS**

- A. Acceptable Manufacturers: Subject to compliance with requirements of the Contract Documents, acceptable manufacturers are as follows.
  1. DeBourgh Manufacturing Company

### **2.02 FABRICATION**

- A. Locker Construction
  1. Lockers to be welded unibody construction with exposed welds sanded smooth.
  2. No bolts, screws or rivets used in assembly of locker units.
  3. Ship lockers set-up, ready to be anchored in place in accordance with manufacturer's instructions.
- B. Body of Lockers
  1. Sides and Intermediate Partitions: Exterior sides constructed of 16 gauge domestic cold rolled sheet steel for maximum durability with 18 gauge intermediate partitions. Intermediate partitions to be diamond perforated for maximum ventilation.
  2. Backs: Solid sheet of 18 gauge cold rolled sheet steel welded to frames of sides and intermediate partitions.

3. Shelves and Tier Dividers: Constructed of 18 gauge cold rolled sheet steel welded to sides and intermediate partition construction. Shelves provided in lockers 60-inches and taller, located to provide a minimum of 12-inches clearance.
- C. Continuous Door Strike
1. Tier dividers, tops and bottoms constructed to provide four-sided, continuous door strike for a secure, sanitary and intrusion-free locker while door is in closed position.
- D. Doors
1. Doors are 16 gauge CRS formed outer panel with double bends on both sides and a single bend on top and bottom with 18 gauge steel formed stiffener panel.
  2. Door stiffener runs top to bottom on hinge side of door and is securely welded to outer door to form a reinforced channel for additional torque-free strength and sound reduction when closing door. (Inner panel not available on 9-inch wide or box locker 12-inches high or less).
- E. Door Ventilation
1. Diamond Perforated with ½-inch by 1-3/8-inch diamond perforations providing 37% ventilation per square inch.
  2. Secur-N-Vent doors with three-dimensional vertical vents formed on fronts and backs of door providing 21% ventilation per square inch.
  3. Solid (no ventilation)
  4. Louvers at top and bottom of door, 7% ventilation.
- F. Latching
1. Access Control Single-Point Latching system
    - a. Wireless Integrated Access Control Locking Devices
- G. Locks
1. GAT Net.Lock 7000, Networked Lock
    - a. Programmable networked RFID locking device for indoor use, including configuration and management software and a set of master keys.
    - b. GAT Net.Lock 7000, Networked Lock with GAT Lock Basic Set 7000, GANTNER Technologies, Inc.
    - c. No substitutions permitted.
  2. Locking Device Operation: Open locking device by holding the RFID media next to the LED and the door will be opened automatically. Close locking device by pressing the locker door shut and holding the RFID media next to the LED. Audible and LED feedback. Solid red LED indicates that lock is locked and solid green LED indicates lock is unlocked.
    - a. Operating Mode: Flexible operating modes, programmed by Owner based on operating requirements.
      - 1) Free Locker / Day Use.
      - 2) Personal Locker / Assigned Use.
      - 3) Usage Time limitation.
      - 4) Automatic unlocking.
      - 5) Expiration date.
      - 6) Pre-locking (no RFID media required for locking in personal mode)
  3. Lock capable of limiting single locker use from one RFID media by writing back to the media or by database comparison of RFID media unique identification number. Writing process to be AES 128 encrypted.
  4. Audit Trail: Logging all actions on the lock including date, time, lock status, RFID media type, and serial number in a centralized SQL database.
  5. LED Display:

LED Color	Meaning
Solid Green	- Lock Unlocked
Solid Red	- Lock Locked
Red flash	- No authorization - Error - Alarm
Green flash	- RFID Media accepted - Operation successful
Red/Green flash alternating	- Lock not configured

6. Power Supply: Via connection cable from the sub controller to the locking device.
  - a. Average Power Consumption: 60mW.
  - b. Lock to only use power during locking and unlocking.

**SELECT ONE OF THE FOLLOWING READER TYPES BASED ON COORDINATION WITH THE ENGINEER RESPONSIBLE FOR ACCESS CONTROL DESIGN. VERIFY WITH GANTNER THAT RFID MEDIA SELECTED FOR ACCESS CONTROL IS COMPATIBLE WITH GANTNER READERS.**

**DELETE THE TYPES NOT USED ON PROJECT.**

7. Reader Type:
  - a. MIFARE® (Classic, Ultralight®, and DESFire EV1® and EV2®), NFC, ISO 15693
  - b. Legic Prime, Advant. Mifare (UID Only), ISO 15693 (UID Only), HID iCLASS (UID only).
  - c. HID iCLASS, iCLASS Elite, iCLASS Seos.
8. Reading Field Frequency: 13.56 MHz.
9. Reading Field Range: 0.2 inches to 1.38 inches (5 mm to 35 mm).
10. Compliance: CE, FCC, IC, EAC.
11. ADA Compliance: The locks are Americans with Disabilities Act (ADA) compliant.
12. Configuration Interface: Locker Management Software.
13. Break-in Resistance Capability: DIN 4547-2, Class C.
14. Protection Type: IP 52.
15. Protection Class: III.
16. Environment Class: VdS 2110, II (conditions in indoor areas).
17. Neutral and Vandal Proof Design: Locking device to be fully mounted inside the locker with no external parts on the door. Provide hole in locker door for LED light with lens.
18. Housing Material: Plastic (PC).
19. Break-In Alarm Function: Locking device capable of detecting door manipulation and generating audible alarm and network alarm notifications.
20. Size: 4.93 inches wide by 0.98 inches thick by 3.94 inches high (125.2 mm wide by 25 mm thick by 100 mm high).

21. Permitted Ambient Temperature: 32 degrees F to 140 degrees F (0 degrees C to 60 degrees C).
22. Locking Mechanism: Motor driven bolt locking that works under inside door pressure.
  - a. Locker Door Bolt GAT NET.Lock BoltSet 7200, attached to door using 4 screws.

#### H. Controllers

1. Controllers: Master and sub controller units for GAT NET.Lock 7000.
  - a.Master: GAT NET.Controller M 7000.
    - 1) Maximum Sub Controllers: 8 per master controller.
  - b.Sub: GAT NET.Controller S 7000.
    - 1) Maximum Locks: 24 per sub controller.
  - c.Master and Sub Power Supply: 24VDC power supply with MOLEX connector.
    - 1) GAT NET.Power Supply 100-240V, GANTNER Technologies Inc.
    - 2) Power supply to be installed into the Master and Sub controller power supply compartment.
      - a. No substitution permitted.
  - d.Interface and Connectors:
    - 1) Master to Server: RJ45, TCP/IP on Ethernet cable.
    - 2) Sub to Master: RJ45, RS 485 on Ethernet cable.
    - 3) Sub to Sub: RJ45 on RS 485 on Ethernet cable.
    - 4) Locks: MOLEX, type Micro-Fit 3.0 on GAT NET.Lock cable, 5m, no substitutions permitted.
  - e.Emergency Mode: Master and Sub Controllers to continue independent operation in case of network failure.

**SELECT FROM THE FOLLOWING LISTED COMPLIANCE BODIES BASED ON SELECTED READER. VERIFY AVAILABILITY WITH GANTNER FOR PROJECT LOCATION.**

- f. Compliance: CE, FCC, IC, EAC, ETL.
- g.Break-in Resistance Capability: DIN 4547-2, Class C.
- h.Protection Type: IP 40.
- i. Protection Class: I.
- j. Environment Class: VdS 2110, II (conditions in indoor areas).
- k.Housing Material: Plastic (ABS-V0).
- l. Size: 12.2 inches by 5.24 inches by 1.65 inches (310 mm by 133 mm by 42 mm).
- m. Permitted Ambient Temperature: 32 degrees F to 140 degrees F (0 degrees C to 60 degrees C).

#### I. Information Terminal: Device to verify locker number with facility or deleting locker information from RFID media by placing RFID media in close proximity to the scan field.

1. Terminal for indoor use:

a. GAT Info 6100, Information Terminal for RFID media, GANTNER Technologies, Inc.

1) No substitutions permitted.

b. Power Supply:

1) Nominal Voltage: 12/24 VDC (SELV, safety extra-low voltage).

2) Permitted Input Voltage: 10 to 28 VDC.

3) Input Current: 300mA.

**SELECT ONE OF THE FOLLOWING READER TYPES. DELETE THE TYPES NOT USED ON PROJECT.**

c. Reader Type:

1) MIFARE<sup>®</sup> (Classic, Ultralight<sup>®</sup>, and DESFire EV1<sup>®</sup> and EV2<sup>®</sup>), NFC.

a. Legic Prime, Advant.

b. ISO 15639.

d. Reading Field Frequency: 13.56 MHz.

e. Reading Field Range: 0.2 inches to 1.38 inches (5 mm to 35 mm).

**SELECT FROM THE FOLLOWING LISTED COMPLIANCE BODIES BASED ON SELECTED READER. VERIFY AVAILABILITY WITH GANTNER FOR PROJECT LOCATION.**

f. Compliance: CE, FCC, IC, EAC.

g. Host Interface: Ethernet 10/100 Mbit/s.

h. Connection Terminals: 0.5 sq mm to 1.5 sq mm.

i. Protection Type: IP 54.

j. Protection Class: III.

k. Environment Class: VdS 2110, II (conditions in indoor areas).

l. Housing Material:

1) Front: Plastic PMMA.

2) Back: Plastic (PC-ABS).

m. Permitted Ambient Temperature: 14 degrees F to 131 degrees F (-10 degrees C to 55 degrees C).

n. Relative Humidity: 20 percent to 80 percent, noncondensing.

o. Function Keys: 4.

p. Display: Liquid crystal display (LCD), alphanumeric, with white LED background lighting.

1) LED Display: Red and green LED lights.

a. Green and Beep (1x): Successful reading of locker number from RFID Media.

b. Red and Beep (2x): Unsuccessful reading of locker number from RFID Media.

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- 2) Languages: Multiple languages available to display messages.
- q. Size: 3.66 inches wide by maximum 1.3 inches thick by 4.2 inches high (93 mm wide by maximum 33 mm thick by 107 mm high).

**SELECT FROM THE FOLLOWING ACCESSORIES.**

r. Accessories:

- 1) Tool to open reader housing, GAT Reader WK, GANTNER Technologies, Inc.

**J. Locker Management Software:**

**1. Software:**

- a. GAT Relaxx, Windows Software, GANTNER Technologies, Inc.
- b. No substitutions permitted.

**2. IT Capabilities:**

- a. User and role management capable of linking to client's Active Directory for software user logon authentication.
- b. Central Microsoft® SQL Database Server.
- c. API for data imports, exports, and integration to client's security platform.
- d. Ability to be installed in a virtualized environment.
- e. Simultaneous operation of multiple clients.
- f. Locking device scan on client's IT network.

**3. Operational Capabilities:**

- a. Graphic user interface for central configuration, monitoring and management of the entire locker system.
- b. Ability to override locker control and to remotely open a locker.
- c. Restrict lockers to users by buildings, areas, zones and groups incl. time limits.
- d. Reserving or blocking multiple lockers to enable future allocation of lockers for special requirements e.g. group or visitors.
- e. Multiple user roles for permission management of software users.
- f. Comprehensive reporting of locker usage with graphical data representation.
- g. Ability to create and send alerts to an individual or a group of individuals for certain locker events (e.g. locker locked, unlocked, tampered, denied)
- h. Configuration of the locking system's operating modes.
- i. Break-in and manipulation alarm displayed on multiple PCs (remote alarm) with email notification.
- j. Ability to link access control devices to locker groups.
- k. Web front end for locker management on mobile devices incl. capability to include locker layout drawings for visualization of lockers
- l. Capable to manage lockers across multiple buildings and departments from a single solution.
- m. Searchable audit trail of all recorded locker activity data including date, time,

- lock status, RFID media type and serial number.
- n. Assigning of temporary RFID media for personal locker in case employees forget their employee cards.
- o. Schedule regularly reoccurring actions to be executed automatically (e.g. backup, cleanup, time synchronization, import and export data)
- p. Ability to update firmware in locks and controllers.
- q. Multiple sets of master cards for different buildings, areas, zones or groups.
- r. Verify technical data and operating system requirements with locking device manufacturer prior to installation.

**K. Hinges**

- 1. 16 gauge continuous piano hinge on the right side of the opening.
- 2. Hinges welded to door and riveted to locker frame.

**L. Slope Tops**

- 1. Provide 18 gauge all welded slope top with 25 degree pitch, attached at factory with concealed fasteners. Slope top to be in addition to standard 16 gauge flat top.

**M. Closed Base**

- 1. Provide 4-inch high, 14 gauge welded steel base enclosed on all four sides securely welded to locker bottom.

**N. Reinforced Bottom**

- 1. Provide 16 gauge spacer channel welded to locker bottom from front to back for a more secure installation. Spacer channel to have full height ½-inch ID tube welded over anchor holes to eliminate deflection upon locker installation. Spacer channel meets all California installation seismic requirements. (When closed bases are not used).

**O. Filler Panels: Manufacturer's standard fabricated from 18 gauge solid steel finished to match lockers.**

**P. Finish**

- 1. Complete locker unit to be thoroughly cleaned, phosphatized and sealed.
- 2. Finish to be baked powder coat with a minimum 2-3 mil thickness.
- 3. Color of lockers shall be chosen from manufacturer's 27 standard colors.

**2.03 LOCKER ACCESSORIES**

**A. Hooks**

- 1. Hooks to be heavy duty forged steel with ball ends and zinc plated.
- 2. Provide two single ceiling hooks and one double ceiling hook in each locker opening 20-inches or taller.

**B. Numbering**

- 1. Furnish each locker with black anodized laser-etched aluminum number plate.
- 2. Locate number plate near center of each door.
- 3. Owner to furnish numbering sequence.

**C. Lock Accessories**

- 1. Contactless RFID Media: Cards, wristbands, key fobs, and other NFC connected devices.
- 2. Self-adhesive labels, with or without graphic symbols or numbers.

**PART 3 – EXECUTION**

**3.01 INSTALLATION**



**A. Wall Installation**

1. Securely anchor every locker to wall and/or floor before use.
2. Anchoring to be determined by conditions at time of installation.
3. The adjacent locker units by bolting at four points, two at top and two at bottom, using ¼-inch cadmium plated bolts.
4. Install each Gantner access control locking device in accordance with the manufacturer's instructions and recommendations.

**B. Lock Installation**

1. Install locking devices in accordance with manufacturer's written instructions.
2. Do not remove or replace the protective covers of products and materials.
3. Coordinate position of locking device to locker body to ensure latching mechanism works properly.

**3.02 ADJUSTING**

- A. General Requirements:** Upon completion of installation, inspect lockers and adjust for proper door and locking mechanism operation.

**3.03 CLEANING**

**A. General Requirements**

1. Clean interior and exposed exterior surfaces, removing debris, dust, dirt, and foreign door and locking mechanism operation.
2. Touch up scratches and abrasions to match original finish.
3. Polish stainless and non-ferrous metal surfaces.
4. Replace locker units that cannot be restored to factory-finished appearance.
5. Use only materials and procedures recommended or furnished by locker manufacturer.