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. ASSA ABLOY HES K100 Integrated Access Control Cabinet Lock.
        3. Provide fasteners and anchorage devices to install lockers provided under this section.
        4. 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. Wiring Diagrams and Door Elevations: Provide the following for each opening having electric hardware, except doors with only magnetic holder/release units.
        1. Wiring diagrams for scheduled items requiring power. Identify manufacturer-installed and field-installed wiring.
        2. Provide load calculations and requirements for each electro-mechanical locking device within +/-5% of 24 VDC. Size the conductors for each device appropriately to maintain this requirement.
        3. Provide cable type (as indicated on the Shop Drawings Wire Legend) that is used for each electro-mechanical locking device, the conductor size, the estimated total length of cable, the estimated line loss (voltage drop), and the percentage of estimated line loss (voltage drop).

    D. 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 min 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.

    E. 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. References: Provide a list of a minimum of [3] references for similar projects including contact name, phone number, name, size and type of project.

    2. Professional Staffing: Firms to have a dedicated access control systems integration department with full time, factory trained and certified professionals on staff experienced in providing on site consulting services for the installation of doors, frames and electrified door hardware in conjunction with electronic physical access control systems.

        i. Project Managers are to be competent factory trained and certified personnel capable of supporting part requests, coordinating installation requirements and providing the necessary calculations required for a centralized system to power the electronic door hardware.

    3. Factory Training: Installation and service technicians are to be competent factory trained and certified personnel capable of maintaining the system.

        i. Technicians have attended a minimum of [40] hours of training with factory authorized personnel prior to installation beginning. Submit documentation for a minimum of one installer that will be on-site at all times to supervise the commissioning of the system. The technician shall be capable of demonstrating a comprehensive understanding of the concepts required to complete the necessary installation requirements.

    4. Service and Repair: Installer/Suppliers are to have a brick and mortar service center within [60] miles of the project site capable of providing training, in-stock parts, and emergency maintenance and repairs at the Project site with 24-hour/7-days a week maximum response time. Qualifications include, but are not necessarily limited, to the following:

        i. Ability to provide in-stock parts for emergency maintenance and repairs at the Project site [5] days a week. Required service center attic stock to include, but is not limited to the following:

            1. Qty [Enter attic stock quantity requirement per lock product type]

        ii. Ability to provide onsite emergency maintenance and repairs within [4] hours of receiving a documented service request from the owner.

        iii. Ability to provide onsite non emergency maintenance and repairs within [24] hours of receiving a documented service request from the owner.

        iv. All Aperio products shall be serviced by a current participating member of the ASSA ABLOY Door Security Solutions Certified Integrator "CI" program. Required service center technician diagnostic tools include, but are not limited to the following:

            1. Wiegand Tester (WT1)

            2. USB Radio Dongle (APD-10-USB)

3. Aperio Programming Kit (APA-10-PC)

4. ASSA ABLOY Integrated Wiegand, Aperio and IP Enabled Access Control Products are required to be supplied and installed only through designated ASSA ABLOY "Authorized Channel Partner" (ACP) and "Certified Integrator" (CI) accounts.

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. Door Hardware Interface: The card key access control system to interface and be connected to electronic door control hardware (electromechanical locks, electric strikes, magnetic locks, door position switches, other monitoring contacts, and related auxiliary control devices) as described under Division 8 "Door Hardware". Coordinate the installation and configuration of specified door hardware being monitored or controlled with the controls, software and access control hardware specified in this Section.

b. 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)   Refer to Section [**08 06 71 "Door Hardware Schedule"**] for hardware sets.

2.   Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing electrified door hardware and access control system components. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing access control system hardware to comply with indicated requirements.

3.   Door and Frame Preparation: Related Division 08 Sections (Steel, Aluminum and Wood) doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

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

HES K100 Integrated Access Control Cabinet Lock

    1. General: Provide all necessary access control field hardware devices required to receive alarms and administer all access granted/denied decisions. Field hardware devices must be designed and installed in accordance with applicable electrical codes.

a. Electronic access control system platform, including communication cabling and software, by others.

2. Open architecture Aperio Wireless IEEE 802.15.4 (2.4 GHz) Integrated Access Control Card Reader Cabinet Lock, BHMA certified, conforming to ANSI 156.11-2003, Grade 1 requirements and FCC Part 15, Class B compliant. Motorized locking control of round or thumbturn knob (solenoids not acceptable) with 3/8" anti-friction latch, field-adjustable for handing without opening the lock body.

3. Aperio Wireless integrated access control cabinet locks interface using local wireless connection between the lock and a nearby communications hub connecting via RS-485 [**AH30XXX-XXXX**] or Wiegand [**AH20W14-NNNN**] to a new or existing online electronic access control system platform.

   a. Fully-encrypted AES 128 bit wireless communication between APERIO integrated access control lock and communication hub (IEEE 802.15.4, 2.4 GHz) with no proprietary programming device requirements. Audit trails and time zones are managed through electronic access control system with up to 10 override credentials and the ability to audit the last 200 event transactions (event type, date, time, user ID and name) stored locally in the lock.

   b. Provide a minimum of one (1) Aperio communication hub per wireless integrated locking device unless otherwise specified in order to provide comprehensive coverage for all devices connected to the access control system.

   c. Provide a minimum of one (1) Lock Installation Tool and USB Radio Dongle (APA-10-PC) for initial lock set-up and configuration per site.

4. Provide integrated access control cabinet lock series, type and functions where specified in hardware groups, with provisions below:

   a. Finish: Black or White

   b. Holding Force: Minimum of 250lbs.

   c. Optional emergency override access capability with mechanical key cylinder retraction of lock cam without necessary electronic activation.

   d. Refer to "KEYING" specification section for keying system requirements.

   e. Minimum door thicknesses of 1/16" up to 1-1/2" with optional shaft extension.

   f. Optional double-door strike plate mounting bracket (620-DD).

5. Locking and unlocking of the knob by electronic operation contained completely within the body of the cabinet lock.

   a. Power Source: Powered by one (1) CR123A lithium battery with LED indication of programming mode and low capacity warning status conditions.

   b. Optional battery jump start pack (620-JSP) for temporary emergency override in the event of power loss.

6. Integrated reader supports HID® 125 kHz proximity credentials; 13.56 MHz contactless credentials: HID® iCLASS (full authentication, all formats), CSN (Card Serial Number) reads for other common 13.56 MHz cards, including ISO 14443 A/B and ISO 15693.

a. Valid/ Invalid credential presentation viewable by means of multi-color LED indicators on outside escutcheon.

7. Environmental Conditions: Conformally coated weather resistant electronic controller shall meet the following minimum requirements:

    a. Operating temperature: 14 to 122 degrees F (-10 to 50 degrees C)

    b. Operating humidity: 5% to 95% relative humidity non-condensing

8. Monitoring: Real time access control system accessible monitoring of door open/closed status by latchbolt integral to the lock, lock jamb, battery, and tamper.

9. Perform centralized control of the integrated locking functions by means of a single cable run from the Aperio communication hub to the access control panel independent of any proprietary power supplies, interface boards or controllers.

    a. AH20W14-NNNN Aperio communication hubs utilize identical wiring methods as legacy 13.56 MHz iCLASS and 125 kHz proximity readers that interface directly with most open architecture, SIA AC-01 Wiegand compliant access control systems.

    b. Source power electrical hard wiring and connections by others.

10. **Specified Manufacturer:**

    a. **HES (HS) – K100 Series.**

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

H. 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.

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

J. 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).

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

L. 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.

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 Aperio access control locking device in accordance with the manufacturer's instructions and recommendations.
    i. By factory trained and certified installers, specializing in the installation of electrified door hardware, with the ability to identify and diagnose potential installation conflicts.
    ii. Connect the electrified door and access control hardware according to system operational narratives at each opening to functionally operate.
    iii. ASSA ABLOY Integrated Wiegand, Aperio and IP Enabled access control products are required to be installed only through designated ASSA ABLOY "Certified Integrator" (CI) accounts.

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.