

ADDENDUM NO. 3

January 17, 2022

Hillside Middle School Remodeling & Site Improvements

**Hillside Middle School
1941 Alamo Avenue
Kalamazoo, MI, 49006**

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications, and the Drawings dated December 6, 2021, by TowerPinkster. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Page ADD 3-1 dated January 17, 2022, and TowerPinkster Addendum consisting of 22 pages, Issued Specification Section 08 71 00, and Product Specification for grease interceptor.

ADDENDUM NO. 2

DATE OF ISSUANCE: December 17, 2021

PROJECT: Hillside Middle School Remodeling and Site Improvements
1941 Alamo Ave
Kalamazoo, MI 49006

OWNER: Kalamazoo Public Schools

ARCHITECT'S PROJECT NO.: 18-521.00

ORIGINAL BID ISSUE DATE: December 6, 2021

SCOPE OF WORK

This Addendum includes changes to, or clarifications of, the original Bidding Documents and any previously issued addenda, and shall be included in the Bid. All of these Addendum items form a part of the Contract Documents. The Bidder shall acknowledge receipt of this Addendum in the appropriate space provided on the Bid Form. Failure to do so may result in disqualification of the Bid.

DOCUMENTS INCLUDED IN THIS ADDENDUM

This Addendum includes **Two [2]** pages of text and the following documents:

- Bidding Documents: **None**
- Contract Conditions: **None**
- Specification Sections: **08 7100**
- Sketches: **None**
- Drawings: **None**

CHANGES TO PREVIOUSLY ISSUED ADDENDA

None.

CHANGES TO BIDDING REQUIREMENTS

None.

CHANGES TO CONTRACT CONDITIONS

None.

CHANGES TO SPECIFICATION

ADD-2 Item No. S-1 - 08 7100 Door Hardware

Refer to newly issued specification section for door hardware, this section was inadvertently left out of the original printing.

CHANGES TO DRAWINGS

None

END OF ADDENDUM.

SECTION 08 7100 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes commercial door hardware for the following:
 - 1. Swinging doors.
 - 2. Other doors to the extent indicated.
- B. Door hardware includes, but is not necessarily limited to, the following:
 - 1. Mechanical door hardware.
 - 2. Electromechanical door hardware.
 - 3. Cylinders specified for doors in other sections.
- C. Related Sections:
 - 1. Division 08 Section "Door Hardware Schedule".
 - 2. Division 08 Section "Hollow Metal Doors and Frames".
 - 3. Division 08 Section "Flush Wood Doors".
 - 4. Division 08 Section "Access Control Hardware".
- D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.
 - 1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
 - 2. ICC/IBC - International Building Code.
 - 3. NFPA 70 - National Electrical Code.
 - 4. NFPA 80 - Fire Doors and Windows.
 - 5. NFPA 101 - Life Safety Code.
 - 6. NFPA 105 - Installation of Smoke Door Assemblies.
 - 7. Michigan Building Code 2012, Local Amendments.
- E. Standards: All hardware specified herein shall comply with the following industry standards:
 - 1. ANSI/BHMA Certified Product Standards - A156 Series
 - 2. UL10C – Positive Pressure Fire Tests of Door Assemblies

1.3 SUBMITTALS

- A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.
- B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - 1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
 - 2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.
 - 3. Content: Include the following information:
 - a. Type, style, function, size, label, hand, and finish of each door hardware item.
 - b. Manufacturer of each item.
 - c. Fastenings and other pertinent information.
 - d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
 - e. Explanation of abbreviations, symbols, and codes contained in schedule.
 - f. Mounting locations for door hardware.
 - g. Door and frame sizes and materials.
 - h. Warranty information for each product.
 - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
- C. Shop Drawings: Details of electrified access control hardware indicating the following:
 - 1. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.
- D. Proof of Certification: Provide copy of manufacturer(s) official certification or accreditation document indicating proof of status as a qualified installer of Windstorm assemblies.
- E. Informational Submittals:
 - 1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

- F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Submittals.

1.4 QUALITY ASSURANCE

- A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.
- B. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- C. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.
- D. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.
 - 1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.
 - 2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.
- E. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.
- F. **Pre-Submittal Conference: Conduct coordination conference in compliance with requirements in Division 01 Section "Project Meetings" with attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware. This meeting is mandatory.**
 - 1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required. This meeting is mandatory.
 - 2. Coordination of Trades Meeting for openings with electromechanical hardware to be facilitated by the Construction Manager.
 - a. Review sequence of operation narratives for each unique access controlled opening.

- b. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
- c. Review and finalize construction schedule and verify availability of materials.
- d. Review the required inspecting, testing, commissioning, and demonstration procedures.

G. Post-installation Conference: After installation of door hardware, conduct a project specific training meeting to examine the installing contractors' personnel installation and adjustment of their respective products. Post-installation conference to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. This meeting is mandatory.

H. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.
- B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.6 COORDINATION

- A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.
- B. Door Hardware and Electrical Connections: Coordinate the layout and installation of scheduled electrified door hardware and related access control equipment with required connections to source power junction boxes, low voltage power supplies, detection and monitoring hardware, and fire and detection alarm systems.
- C. Door and Frame Preparation: 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.

1.7 WARRANTY

- A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
 - 1. Structural failures including excessive deflection, cracking, or breakage.
 - 2. Faulty operation of the hardware.
 - 3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 4. Electrical component defects and failures within the systems operation.
- C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.
- D. Special Warranty Periods:
 - 1. Ten years for mortise locks and latches.
 - 2. Five years for exit hardware.
 - 3. Twenty five years for manual surface door closer bodies.
 - 4. Two years for electromechanical door hardware.

1.8 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.
- B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:
- C. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

- D. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

- A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles as specified in the Door Hardware Sets.
1. Quantity: Provide the following hinge quantity, unless otherwise indicated:
 - a. Two Hinges: For doors with heights up to 60 inches.
 - b. Three Hinges: For doors with heights 61 to 90 inches.
 - c. Four Hinges: For doors with heights 91 to 120 inches.
 - d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.
 2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
 - a. Widths up to 3'0": 4-1/2" standard or heavy weight as specified.
 - b. Sizes from 3'1" to 4'0": 5" standard or heavy weight as specified.
 3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
 - a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
 - b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.
 4. Hinges for 180 degree openings: Provide wide throw hinges as required to make sure door can swing 180 degrees.
 5. Hinge Options: Comply with the following where indicated in the Hardware Sets or on Drawings:
 - a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.
 6. Acceptable Manufacturers:
 - a. Hager Companies (HA).
 - b. McKinney Products (MK).
 - c. Ives (IV).
- B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge. with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of

4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Acceptable Manufacturers:
 - a. Ives
 - b. McKinney Products (MK).
 - c. Pemko Manufacturing (PE).

2.3 POWER TRANSFER DEVICES

- A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

1. Acceptable Manufacturers:
 - a. Securitron (SU) - EL-CEPT Series.
 - b. Von Duprin (VD) - EPT-10 Series.

- B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Acceptable Manufacturers:
 - a. McKinney Products (MK) – QC-C Series.
 - b. Allegion Connect.

2.4 DOOR OPERATING TRIM

- A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.
 1. Manual flush bolts to be furnished with top rod of sufficient length to allow bolt location approximately six feet from the floor.
 2. Furnish dust proof strikes for bottom bolts.
 3. Surface bolts to be minimum 8" in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
 4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.
 5. Acceptable Manufacturers:

- a. Ives
 - b. Rockwood Manufacturing (RO).
 - c. Trimco (TC).
- B. Door Push Plates and Pulls: ANS/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.
 1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
 2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
 3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.
5. Acceptable Manufacturers:
 - a. Rockwood Manufacturing (RO).
 - b. Trimco (TC).
 - c. Ives

2.5 CYLINDERS AND KEYING

- A. Cylinders: Existing 7-Pin small format interchangeable core (SFIC) Best key system.
 1. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
 2. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
 3. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
 4. Provide all cylinder housings with disposable construction core.
 5. Owner (KPS) provides final cores.
 6. Acceptable manufacturers:
 - a. Stanley Best (BE).
 - b. Marshall Best Systems (MB).

2.6 MECHANICAL LOCKS AND LATCHING DEVICES

- A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 certified. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.
 - 1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware (RU) – ML2000 Series.
 - b. Sargent Manufacturing (SA) – 8200 Series.
 - c. Schlage (SC) – L9000 Series.
 - d. Stanley Best (BE) – 40H Series.

2.7 LOCK AND LATCH STRIKES

- A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:
 - 1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
 - 2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
 - 3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
- B. Standards: Comply with the following:
 - 1. Strikes for Mortise Locks and Latches: BHMA A156.13.
 - 2. Strikes for Auxiliary Deadlocks: BHMA A156.5.
 - 3. Dustproof Strikes: BHMA A156.16.

2.8 ELECTRIC STRIKES

- A. Security Rim Electric Strikes: Surface mounted rim exit device electric strikes conforming to ANSI/BHMA A156.31 Grade 1, and UL Listed for Burglary Resistance, category 1034. Strike designed for use with Corbin Russwin SecureBolt™ and Yale SquareBolt™ rim exit devices. Strikes tested for minimum of 500,000 operating cycles. Provide strikes with 12 or 24VDC capability supplied standard as fail-secure unless otherwise specified. Option available for latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike
 - 1. Acceptable Manufacturers:
 - a. HES

2.9 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.
2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer's catalog and template book for specific requirements.
3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.
4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.
5. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.
 - a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
 - b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.
6. Vertical Rod Exit Devices: Provide and install interior surface and concealed vertical rod exit devices as Less Bottom Rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.
7. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2" wide stiles.
8. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.
9. Rail Sizing: Provide exit device rails factory sized for proper door width application.
10. Through Bolt Installation: All exit devices shall have thru-bolt fasteners for mounting.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 certified panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.

1. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
 - b. Sargent Manufacturing (SA) - 80 Series.
 - c. Von Duprin (VD) - 35A/98 Series.

NOTE: All exit devices to use thru-bolts.

NOTE: Electric latch retraction not permitted, unless approved by Owner on a specific project.

- C. Tube Steel Removable Mullions: ANSI/BHMA A156.3 removable steel mullions with malleable-iron top and bottom retainers and a primed paint finish.
1. Provide keyed removable feature where specified in the Hardware Sets.
 2. Provide stabilizers and mounting brackets as required.
 3. Provide electrical quick connection wiring options as specified in the hardware sets.
 4. Acceptable Manufacturers:
 - a. Corbin Russwin Hardware (RU) - 700/900 Series.
 - b. Sargent Manufacturing (SA) - 980S Series.
 - c. Von Duprin (VD) - 9954 Series.
 - d. Yale Locks and Hardware (YA) - M200 Series.

2.10 DOOR CLOSERS

- A. All door closers specified herein shall meet or exceed the following criteria:
1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
 2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.
 3. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
 4. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
 5. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
 6. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
 7. All regular mount (pull side mount) and parallel arm mount closers shall have thru-bolt fasteners for mounting.

8. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates, and thru-bolt and security type fasteners as required for proper installation.
- B. Door Closers, Surface Mounted (Large Body Cast Iron): ANSI/BHMA A156.4, Grade 1 surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.
 1. Acceptable Manufacturers:
 - a. Norton Door Controls (NO) – 7500 Series.
 - b. LCN Closers (LC) - 4040XP Series.
 2. Note:
 - a. Install all closers on Wood Doors with thru-bolts.
 - b. Do not thru-bolt Aluminum Doors.

2.11 ARCHITECTURAL TRIM

- A. Door Protective Trim
 1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.
 2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1" LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.
 3. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:
 - a. Stainless Steel: 300 grade, .050-inch thick.
 4. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.
 5. Acceptable Manufacturers:
 - a. Rockwood Manufacturing (RO).

2.12 DOOR STOPS AND HOLDERS

- A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

- B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Acceptable Manufacturers:

- a. Rockwood Manufacturing (RO).
- b. Trimco (TC).
- c. Ives

- C. Overhead Door Stops and Holders: ANSI/BHMA A156.6, Grade 1 certified overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Acceptable Manufacturers:

- a. Glynn Johnson (GJ).
- b. Rixson Door Controls (RF).
- c. Rockwood Manufacturing (RO).
- d. Sargent Manufacturing (SA).

2.13 ARCHITECTURAL SEALS

- A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

- B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

- C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

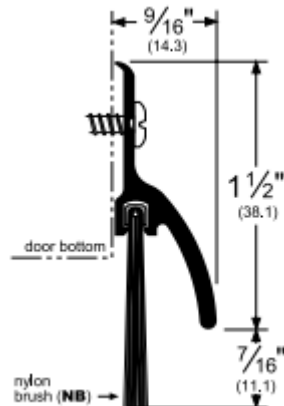
1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and UBC 7-2, Fire Tests of Door Assemblies.

- D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

- E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Acceptable Manufacturers:

1. National Guard Products (NG).
2. Pemko Manufacturing (PE).
3. Reese Enterprises, Inc. (RS).
 - a. Note: Thermally Broken Thresholds not permitted.
 - b. Sweeps: Basis of design: Pemko 245_NB



2.14 ELECTRONIC ACCESSORIES

- A. Card Readers, provided by Security Contractor.
- B. Power Supplies provided by Others.
- C. Doors are not monitored. Door Contacts and Request to Exit not required.

2.15 FABRICATION

- A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.16 FINISHES

- A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.
- B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.

- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

- A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.
- B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

- A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.
 - 1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.
- B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
 - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
 - 2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
 - 3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
 - 4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.
- C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

- D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."
- E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

- A. Field Inspection: Supplier will perform a final inspection of installed door hardware and state in report whether work complies with or deviates from requirements, including whether door hardware is properly installed, operating and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

- A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.
- B. Clean adjacent surfaces soiled by door hardware installation.
- C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

- A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SCHEDULE

- A. The hardware sets 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.
- B. Manufacturer's Abbreviations:

**PROJECT NO. 18521.00
HILLSIDE MIDDLE SCHOOL REMODELING AND SITE IMPROVEMENTS
KALAMAZOO PUBLIC SCHOOLS**

**DOOR HARDWARE
08 7100 - 17
ADD #2 – 12-17-2021**

1. MK - McKinney
2. RO - Rockwood
3. RU - Corbin Russwin
4. BE - dormakaba Best
5. RF - Rixson
6. LC - LCN Closers
7. PE - Pemko

Hardware Sets

Set: 1.0

Doors: 113B

6 Hinge (heavy weight)	T4A3786	US26D	MK
1 Mullion	CR907/8BKM		RU
2 Fire Rated Rim Exit, Classroom	ED5200A N955ET M110 M54	630	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable construction core)	626	BE
2 Rim Cylinder	12E-72 Less Core (supply with disposable construction core)	626	BE
3 Core	- Provided by Kalamazoo Public Schools	626	BE
2 Surface Closer	4040XP EDA TBSRT	.689	LC
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO
2 Electromagnetic Holder	994M	689	RF ⚡
1 Gasketing	S88BL		PE
1 Gasketing	5110BL		PE

Notes:

Doors to be normally held open on door / wall mounted magnetic hold open devices.
Magnetic hold open devices to release at activation of fire alarm.

Set: 2.0

Doors: 112A

3 Hinge, Full Mortise	TA2714	US26D	MK
1 Classroom Lock	ML2055 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable	626	BE

**PROJECT NO. 18521.00
HILLSIDE MIDDLE SCHOOL REMODELING AND SITE IMPROVEMENTS
KALAMAZOO PUBLIC SCHOOLS**

**DOOR HARDWARE
08 7100 - 18
ADD #2 – 12-17-2021**

	constrction core)		
1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Wall Stop	406 / 409	US32D	RO
3 Silencer	608 / 609		RO

Set: 3.0

Doors: 115A

6 Hinge (heavy weight)	T4A3786	US26D	MK
1 Flush Bolt	2805 / 2905	US32D	RO
1 Storeroom Lock	ML2057 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable constrction core)	626	BE
1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Conc Overhead Stop	1-X36	630	RF
1 Surface Closer	4040XP SCUSH	.689	LC
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO
2 Silencer	608 / 609		RO

Set: 4.0

Doors: 116A

6 Hinge (heavy weight)	T4A3786	US26D	MK
1 Flush Bolt	2805 / 2905	US32D	RO
1 Storeroom Lock	ML2057 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable constrction core)	626	BE
1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Surface Closer	4040XP EDA TBSRT	.689	LC
2 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Wall Stop	406 / 409	US32D	RO
2 Silencer	608 / 609		RO

Set: 5.0

Doors: 114A, 114B

3 Hinge (heavy weight)	T4A3786	US26D	MK
1 Storeroom Lock	ML2057 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable constrction core)	626	BE

**PROJECT NO. 18521.00
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KALAMAZOO PUBLIC SCHOOLS**

**DOOR HARDWARE
08 7100 - 19
ADD #2 – 12-17-2021**

1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Surface Closer	4040XP EDA TBSRT	.689	LC
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Wall Stop	406 / 409	US32D	RO
3 Silencer	608 / 609		RO

Set: 6.0

Doors: 112B, 112C, 115C

3 Hinge (heavy weight)	T4A3786	US26D	MK
1 Classroom Lock	ML2055 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable constrction core)	626	BE
1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Surface Closer	4040XP EDA TBSRT	.689	LC
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Wall Stop	406 / 409	US32D	RO
3 Silencer	608 / 609		RO

Set: 7.0

Doors: 115B

3 Hinge (heavy weight)	T4A3786	US26D	MK
1 Classroom Lock	ML2055 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable constrction core)	626	BE
1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Surface Closer	4040XP SCUSH	.689	LC
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
3 Silencer	608 / 609		RO

Set: 8.0

Doors: 111B

3 Hinge (heavy weight)	T4A3786	US26D	MK
1 Classroom Lock	ML2055 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable constrction core)	626	BE

**PROJECT NO. 18521.00
HILLSIDE MIDDLE SCHOOL REMODELING AND SITE IMPROVEMENTS
KALAMAZOO PUBLIC SCHOOLS**

**DOOR HARDWARE
08 7100 - 20
ADD #2 – 12-17-2021**

1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Surf Overhead Stop	10-X36	630	RF
1 Surface Closer	4040XP REG TBSRT	.689	LC
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
3 Silencer	608 / 609		RO

Set: 9.0

Doors: 113A

3 Hinge (heavy weight)	T4A3786	US26D	MK
1 Classroom Lock	ML2055 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable constrction core)	626	BE
1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Surface Closer	4040XP EDA TBSRT	.689	LC
1 Kick Plate	K1050 10" high CSK BEV	US32D	RO
1 Wall Stop	406 / 409	US32D	RO
1 Gasketing	S88BL		PE

Set: 10.0

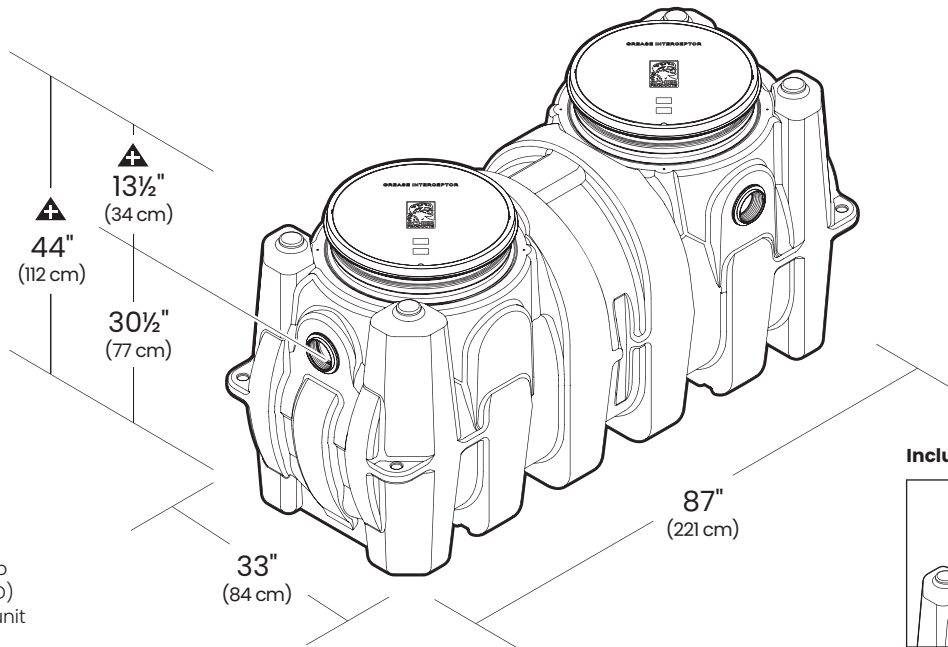
Doors: 111A

3 Hinge (heavy weight)	T4A3786	US26D	MK
1 Classroom Lock	ML2055 NSA LC	626	RU
1 Mortise Cylinder	1E-74 Less Core (supply with disposable constrction core)	626	BE
1 Core	- Provided by Kalamazoo Public Schools	626	BE
1 Surface Closer	4040XP EDA TBSRT	.689	LC
1 Kick Plate	K1050 F 36" high CSK BEV	US32D	RO
1 Wall Stop	406 / 409	US32D	RO
1 Gasketing	S88BL		PE

END OF SECTION 08 7100

SPECIFICATION AND SUBMITTAL

GB-250 100/200 GPM Great Basin™ Indoor/Outdoor Grease Interceptor

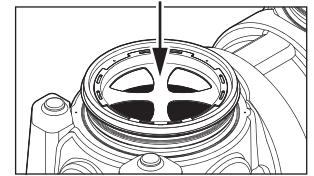


Adjustable cover adapters provide up to 4" of additional height.



This unit is certified to ASME A112.14.3 (Type D) and CSA B481.1. This unit does not require flow control.

Includes Safety Star®



SUBMITTAL

Standard

Location: Indoor/outdoor

Installation: Above/below grade

Flow Rates / Grease Capacities:

100 GPM (6.3 L/s) / 1,895 lbs. (860 kg), 260 gal. (984 L)

200 GPM (12.6 L/s) / 1,196 lbs. (543 kg), 164 gal. (621 L)*

Removal Efficiency at the

Rated Capacity: 96.7%

Solids Capacity: 69 gal. (261 L)

Liquid Capacity: 277 gal. (1,049 L)

Weight: 376 lbs. (171 kg)

Connections: 4" FPT with 4" plain end adapters, single inlet and triple outlet

Covers: Cast iron covers, pickable 24" gas/water tight, H-20 rated, proof-load tested to 40,000 lbs.

Access Restrictor: Safety Star® (450 lb. rating) built into each cover adapter

Options

- ☐ 6" plain end inlet/outlet (straight-through) with dual pumpout port connections
- ☐ 6" MPT inlet/outlet (stainless steel, straight-through)
- ☐ -FO (fixed outlet)
- ☐ C24H2 Composite covers, bolted 24" gas/water tight, traffic load rated for 16,000 lbs.

Accessories

- ☐ FCR2 (x2) >4" – 34" field cut riser
- ☐ FCR2 (x4) >34" – 64" field cut risers
- ☐ FCR2 (x6) >64" – 94" field cut risers
- ☐ CA2 Adapter for 24" corrugated pipe riser
- ☐ PP3 Pumpout port
- ☐ AK1 High water anchor kit
- ☐ ATD1 Cover adapter tie-down kit
- ☐ AGS1 Above grade support kit
- ☐ PLAIN-EA-24 2" plain end fitting
- ☐ PLAIN-EA-34 3" plain end fitting
- ☐ FPT-EA-34 4" x 3" FPT fitting
- ☐ FPT-EA-23 3" x 2" FPT fitting
- ☐ CC2 Integral membrane clamping collar kit

* At 200 GPM, this unit is certified to ASME A112.14.3 (Type C) and CSA B481.1 and includes an internal flow control. External flow control with vent not required.

Approval

Signature:	Date:	Company:
Specifying Engineer:	Engineering Firm:	



SCHIER

MODEL NUMBER:
GB-250

DESCRIPTION: 100/200 GPM Polyethylene Grease Interceptor

PART #: 4055-001-02

DWG BY: B. Karrer

DATE: 8/28/2020

REV:

ECO:



SPECIAL PRECAUTIONS

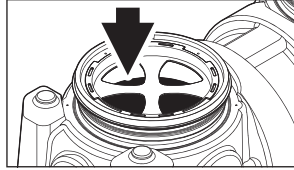
For Schier Grease Interceptor Installations – Failure to follow this guidance voids your warranty

WARNING! DO NOT AIR TEST UNIT OR RISER SYSTEM!
Doing so may result in property damage, personal injury or death.

CAUTION! Do not install this unit in any manner except as described in these instructions.

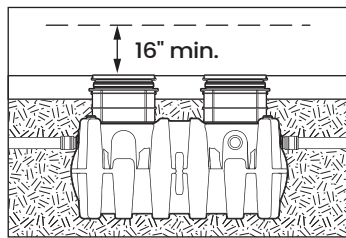
Installation Instructions

Installation instructions and additional components are included with the interceptor. Read all instructions prior to installation. This interceptor is intended to be installed by a licensed plumber in conformance with all local codes.

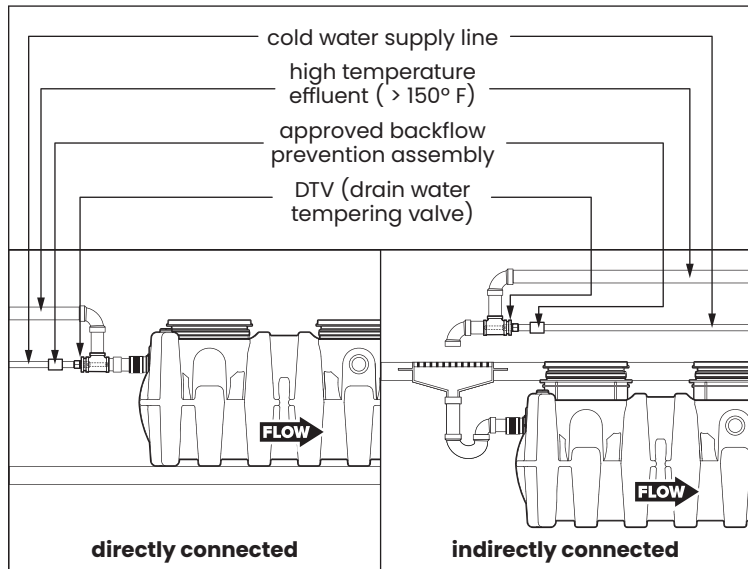


Install interceptor as close as possible to fixtures being served

Provide at least 16" clearance above unit for routine maintenance.



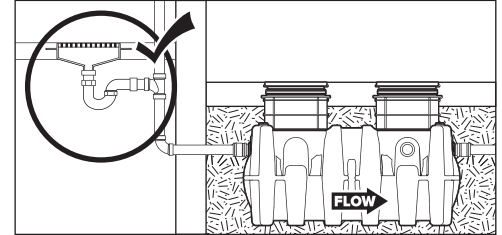
High Temperature Kitchen Water



If water is entering the interceptor at excessive temperature (over 150°F), a drain water tempering valve (DTV) and approved backflow prevention assembly must be installed. Most state and local plumbing codes prohibit water above 150°F being discharged into the sanitary sewer. Water above 150°F will weaken or deform PVC Schedule 40 pipe, poly drainage fixtures like interceptors and erode the coating of cast iron (leading to eventual failure).

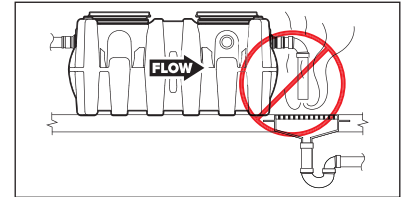
ODOR ALERT!

Interceptor is not a sewer gas trap. All upstream fixtures must be trapped



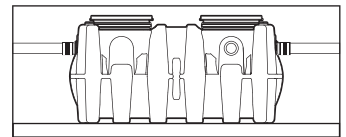
ODOR ALERT!

Do not install air gap on outlet side of interceptor.



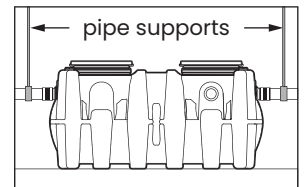
Fully Support Base of Unit

Install unit on solid, level surface in contact with the entire footprint of unit base



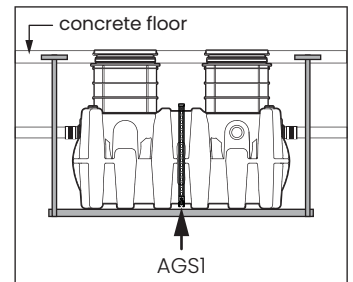
Support Inlet and Outlet Piping

For above grade installations ensure heavy inlet and outlet piping (such as cast iron or long runs) is properly supported or suspended during the entire installation process to prevent connection failure or damage to bulkhead fittings.



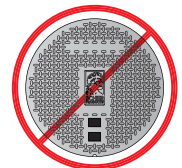
Suspended Installations

Design trapeze to support the wet weight of the unit. Do not partially support unit or suspend unit using metal U-channel to create a trapeze. The wet weight of the interceptor combined with high temperature kitchen water creates the potential for tank deformation in suspended installations. In these situations Above Grade Support Kit model AGS1 is required to be installed to maintain GB-250 structural integrity.



DO NOT USE CAST IRON COVERS IN ABOVE GRADE OR INDOOR INSTALLATIONS

Use composite cover C24H2 for above grade installations



SCHIER

MODEL NUMBER:
GB-250

DESCRIPTION: 100/200 GPM Polyethylene Grease Interceptor

PART #: 4055-001-02

DWG BY: B. Karrer

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REV:

ECO:

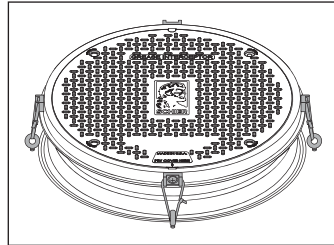


SPECIAL PRECAUTIONS

For Schier Grease Interceptor Installations – Failure to follow this guidance voids your warranty

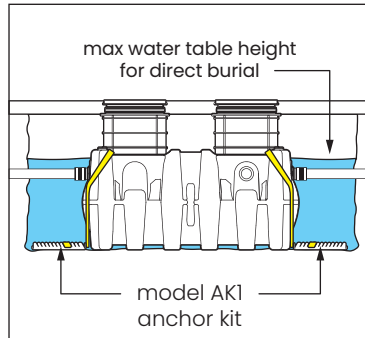
Secure Cover Adapters

Cover adapters must be secured to base units in above grade installations with increased head pressure conditions. Use cover adapter tie-down kit model ATD1.



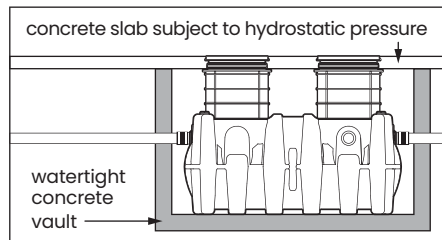
High Water Table Installations

Interceptors and risers are not designed to withstand water table height in excess of the top of the unit when buried (see figure). If it is possible for this to occur, install the interceptor and risers in a water-tight concrete vault or backfill with concrete or flowable fill (wet concrete and flowable backfill should be poured in stages to avoid crushing the interceptor). At risk areas include but are not limited to tidal surge areas, floodplains and areas that receive storm water. Great Basin™ models that are direct buried in high water table scenarios must be installed with an anchor kit. Model GB-250 uses model AK1 anchor kit.



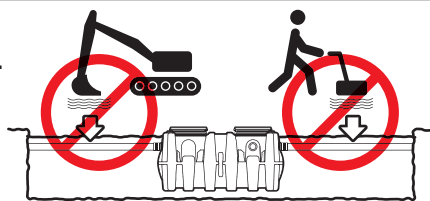
Hydrostatic/Pressure Slabs

When installed under a hydrostatic slab (slab designed to withstand upward lift, usually caused by hydrostatic pressure) interceptor must be enclosed in a watertight concrete vault.



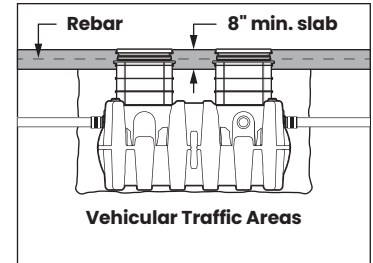
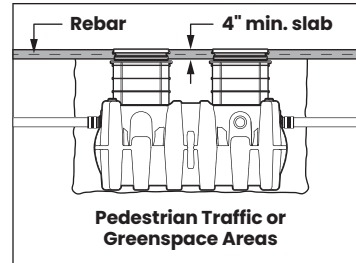
DO NOT COMPACT BACKFILL MECHANICALLY

Compact by hand only

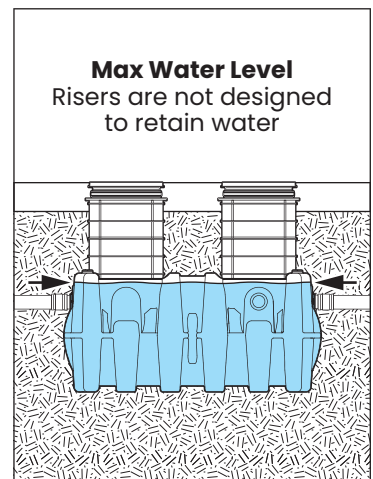
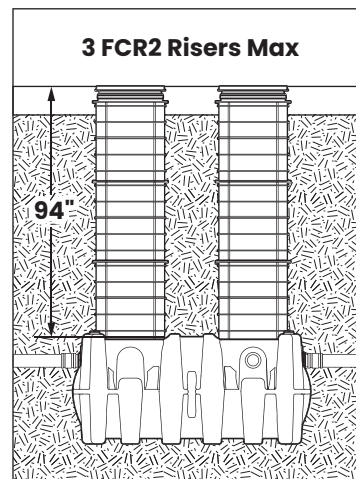


Below Grade Installation Slab Requirements

A concrete slab to finished grade with rebar is required when installing interceptor below grade.

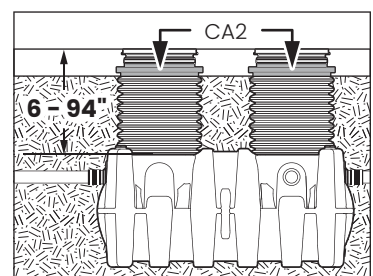


Installations with Risers



Corrugated Riser Pipe Requirements

Riser adapter model CA2 must be used when installing interceptors using 24 inch diameter corrugated pipe as a riser. This will adequately embed the cover adapter in the concrete slab, preventing cover/cover adaption failure under traffic rated loads.



SCHIER

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GB-250

DESCRIPTION: 100/200 GPM Polyethylene Grease Interceptor

PART #: 4055-001-02

DWG BY: B. Karrer

DATE: 8/28/2020

REV:

ECO:

SPECIFICATIONS

NOTES

1. 4" FPT with 4" plain end adapters, single inlet and triple outlet
2. Unit weight - w/cast iron covers: 376 lbs.; w/composite covers: 266 lbs. (For wet weight add 2,310 lbs.)
3. Maximum operating temperature: 150° F continuous
4. Capacities - Liquid: 277 gal.; @100 GPM - Grease: 1,895 lbs. @200 GPM - Grease: 1,196 lbs. Solids: 69 gal.
5. This unit does not require flow control for 100 GPM applications. Built-in Flow control is provided for 200 GPM applications. For series installations, only install flow control on the first unit in the series if necessary.
6. For gravity drainage applications only.
7. Do not use for pressure applications.
8. Cover placement allows full access to tank for proper maintenance.
9. Vent not required unless per local code.
10. Engineered inlet and outlet diffusers are removable to inspect / clean piping.
11. Integral air relief / Anti-siphon / Sampling access.
12. Adjustable cover adapters provide up to 4" of additional height.
13. Fixed outlet models (-FO) have inlet and outlet permanently welded at the factory in the straight-through (B) positions.
14. Flow rates are based on 2-minute drain time.
15. Safety Star®, access restrictor built into each cover adapter, prevents accidental entry to tanks (450 lb rating)

DIFFUSION FLOW TECHNOLOGY

The inlet diffuser reduces turbulence, creates laminar flow and allows the entire tank volume to be utilized for efficient grease separation and minimal disturbance to existing grease and sediment layers. The inlet diffuser can be attached to any of the three inlets provided to ease job site piping layouts. The integral air relief / anti-siphon at the outlet diffuser top allows pressure stabilization within the unit during operation. The outlet diffuser can easily be attached to any of the three outlets provided to ease job site piping layouts.

ENGINEER SPECIFICATION GUIDE

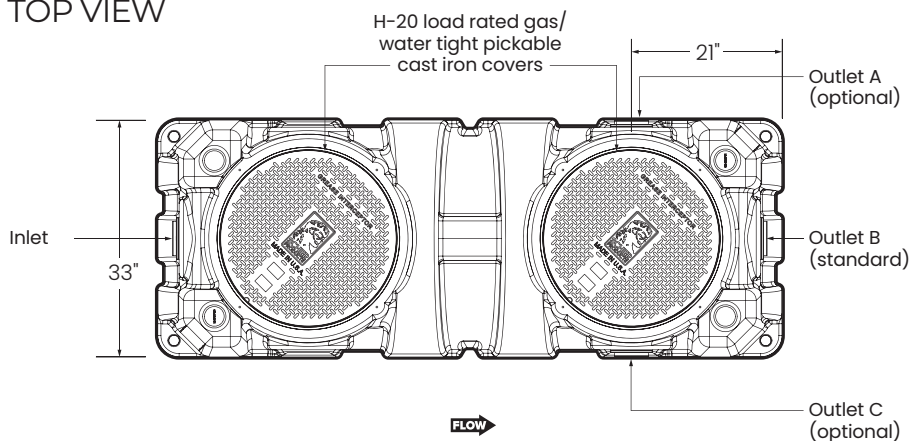
Schier Great Basin™ grease interceptor model # GB-250 shall be lifetime guaranteed and made in USA of seamless, rotationally-molded polyethylene. Interceptor shall be furnished for above or below grade installation. Interceptor shall be certified to ASME A112.14.3 (Type D for 100 GPM, type C for 200 GPM) and CSA B481.1, with adjustable cover adapters, Safety Star® access restrictor built into each cover adapter, built-in flow control (for 200 GPM only) and three outlet options. Interceptor flow rate shall be 100 or 200 GPM. Interceptor grease capacity shall be 1,895 lbs. @ 100 GPM or 1,196 GPM @ 200 GPM. Cover shall provide water/ gas-tight seal and have minimum 16,000 lbs. load capacity.

CERTIFIED PERFORMANCE

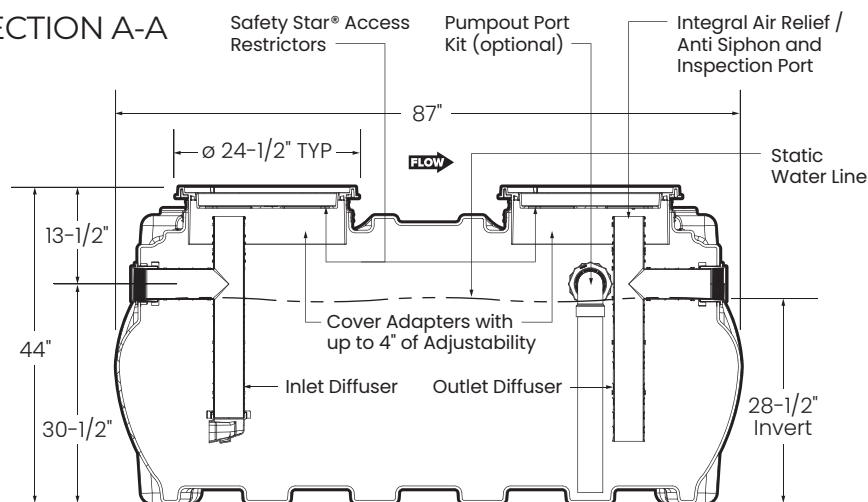
Great Basin™ hydromechanical grease interceptors are third party performance-tested and listed by IAPMO to ASME #A112.14.3 and CSA B481.1 grease interceptor standards and greatly exceed requirements for grease separation and storage. They are compliant to the Uniform Plumbing Code and the International Plumbing Code.



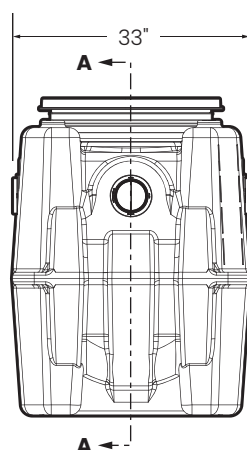
TOP VIEW



SECTION A-A



INLET END VIEW



Rated Grease Capacities for Units Piped in Series

No. of Units in Series	Removal Efficiency	
	100 GPM	200GPM
	96.7%	93.5%
2	3,790 lbs.	2,392 lbs.
3	5,685 lbs.	3,588 lbs.
4	7,580 lbs.	4,790 lbs.



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