

## SECTION 02825

### MODEL PSB-M50/K12 Tested and Certified to meet ASTM Designation M50 P2

#### HYDRAULIC VERTICAL PIVOT GATE SYSTEM

##### PART 1 - GENERAL

###### 1.01 SUMMARY

- A. Section Includes: Provide vertical pivot gate system including gate, bollards, and PSB-M50-K12 Tilt-A-Way hydraulic operator, with accessories as required for complete operational installation. Certified M-50 anti-ram crash gate 15,000 lb. truck traveling 50 MPH.
- B. Related Sections:
  - 1. Section 02820: Chain link fences and gates.
  - 2. Division 3: Concrete support slab.
  - 3. Division 16: Electrical connections.

###### 1.02 SYSTEM DESCRIPTION

- A. Performance Requirements:
  - 2. Safety Devices: Provide manufacturer's standard safety devices including the following features.
    - a. Provide pressure relief valve to avoid crushing obstruction encountered in either direction of travel.
    - b. Provide shut off power device if balance system fails.
  - 2. Power Failure: Provide manual bypass system, which allows barriers to be opened and to be closed in the event of power failure.
  - 3. Operation: High cycle use.

*[Note: All gates require an extended operator model PSB-K12. Consult Ideal Mfg., Inc. for sizes available.]*

- B. Gate Height: [ \_\_\_\_\_ ] [As indicated on Drawings].

*(Note: 23 feet gate with proper bollard placement has 20 feet roadway opening.)*

- C. Gate Width: [ \_\_\_\_\_ ] [As indicated on Drawings].

###### 1.03 SUBMITTALS

- A. Product Data: Furnish manufacturer's literature for gate and operator and each manufactured accessory required for Project.
  - 1. Wiring Diagrams: Furnish manufacturer's wiring diagrams for gate operator.
  - 2. Maintenance Data: Furnish manufacturer's operators and parts manual.

- B. Shop Drawings: Show location of vertical pivot gates system in relationship with adjacent fencing and paving, details of installation, hardware locations, and accessories.
  - 1. Templates: Provide drawings or templates for installation of anchor bolts in support slab.
- C. Certificates: Furnish manufacturer's certification indicating system provided complies with specified requirements.

#### 1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Firm approved by manufacturer or with minimum five years successful experience completing vertical pivot gate installation similar to that required.
- B. Pre-installation Conference: Conduct meeting at site prior to commencing work related to vertical pivot gate system installation.
  - 1. Require attendance of parties directly affecting vertical pivot gate installation.
  - 2. Review site conditions, procedures, and coordination required with related work.

#### 1.05 PROJECT CONDITIONS

- A. Field Measurements: Verify dimensions and component layout by field measurements prior to beginning installation.

#### 1.06 WARRANTY

- A. Provide manufacturer's standard limited warranty for system and system components against failure resulting from normal use based on manufacturer's literature.
  - 1. Failure shall be defined as any defect in manufacturing, which prevents the gate from operating as intended.
- B. Warranty Period: One year.

### **PART 2 - PRODUCTS**

#### 2.01 MANUFACTURER

- A. Ideal Manufacturing, Inc., 2011 Harnish Blvd., Billings, MT 59101.  
Telephone 800-523-3888 or 406-656-4360; Fax 406-656-4363.  
Web address: [www.tiltaway.com](http://www.tiltaway.com); E-mail: [info@tiltaway.com](mailto:info@tiltaway.com)

#### 2.02 MANUFACTURED UNIT

- A. Vertical Pivot Gate System: Ideal Mfg., Inc./TILT-A-WAY Model PBS-K12.

#### 2.03 COMPONENTS

- A. Hydraulic Power Unit: 2 HP TEFC motor, 1725 RPM, 220 Volt Single-Phase Vickers Hydraulic power unit capable of delivering 4.3 GPM at 1000 PSI, with external adjustment relief valve and 4-way solenoid operated 3-position manual override valve.
1. Hydraulic pump, motor, and reservoir will all be as one unit with fluid thermometer and fluid level sight gauge.
  2. The hydraulic system will be designed to keep the gate locked in the closed position, keeping any person from lifting the gate open when it is in the closed position.
  3. Pedestal Frame: Welded construction with removable outer skin of cross break corrosion resistant painted gray .063 aluminum plate panels.
  4. Inspection Door Hardware: Stainless steel continuous hinges and heavy-duty lockable pull down catches to hold inspection door shut.
  5. Power: [208/220 Volt Single-Phase] 4 Wire if 110 vac is required. The total gate system requires 25-amp service, with no more than 3% drop in voltage, while the gate is in operation. (FOR WIRE SIZE: CONSULT LOCAL ELECTRICAL CODE.)
- B. Hydraulic System: 2500-psi hydraulic cylinder.
1. Cylinder: 2-1/2" by 38" stroke hydraulic cylinder with 1-3/8" diameter rod, limit switches and cushioned slow down on each end of travel, and adjustable stops with lock down in any position.
  2. Hydraulic Fluid: Manufacturer's standard, factory checked, filled, and tested.
- C. Balance System: System designed to allow barrier to be opened and closed manually, consisting of manufacturer's standard cables, sheaves, sealed cam yoke roller bearings, and tension springs pulled in a straight line.
1. Safety Control Switch: Provide built-in safety control switch capable of stopping barrier in any position should balance system fail.
  2. Testing: Factory test and adjust balance system to ensure gate may be manually raised and lowered with specified pressure.
  3. Signage: Signage to be added to the gate barrier must be declared at the time of order so the manufacturer can add the signs on the barrier, to ensure Ideal Mfg. balances the operator correctly at the time of manufacturing.
- D. Electrical System: Oversized rain tight enclosure housing electrical components except limit switches, safety switches, and motor.
1. Wire: Oil and gasoline resistant.
  2. Overload Protection: Allen Bradley type overload protection relay to protect motor.
  3. Reversing Controller: Provide as required to operate motor and solenoid valves.
  4. Overrun Delay Timers: Integral to board capable of shutting down system in case motor runs longer than 30 seconds.
  5. Limit Switches: Adjustable snap action style limit switches capable of stopping barrier at each end of travel.
  6. Logic Board: Programmable logic board with manufacturer's full range of available functions.
  7. All gates are equipped with a dry contactor to accommodate all types of access equipment.

*[Note: Coordinate selection of following options with manufacturer.]*

2. Options:
  - a. Cold Weather Package: (required in areas where the temperature drops to less than 35° F).
  - b. Radio Controls: Provide standard open-close-stop commercial transmitters/receivers systems.
  - c. Loop Detectors: Provide detector system (except loop) to allow free exit/safety, safety, or close gate operation; system to be factory wired inside electrical box and tested.
  - d. Reversing Edge: Provide manufacturers standard reversing edge system.
  - e. Gate Status Lights: Provide LED light strips indicating gate status: such as green light indicates barrier is open; red light indicates barrier is in motion or is closed.
  - f. Locks: Magnetic lock secures gate in closed position.
  - g. Photo Eye: Used as a form of safety.
  - h. S.O.S.: Siren Operated Sensor (emergency access system)
  - i. Stainless steel fasteners.
  - j. Heater for Electrical Box: Provide heater, including full box insulation to protect system for conditions to -70° F.
  - k. Ice Scrapers: (for cable sheaves).
  - l. 120 volt Heat mat.

*[Note: Coordinate selection of systems with vertical pivot gate system manufacturer.]*

- E. Barrier System (Gate): Design to resist twist and to resist sway.

*[Note: Select either standard aluminum, or custom barriers; coordinate custom barriers with manufacturer.]*

1. Type: Manufacturer's standard aluminum barrier (up to 20 feet wide opening per gate leaf), nominal 3.125" by 2.875" diamond 6063-T5 alloy aluminum screen fabric (amplimesh) welded both sides completely. Leading member of an aluminum barrier 4" schedule 40 round tube, uprights- 2 x 2 x .188 square tube.
2. Type: Custom barrier as indicated on Drawings.

- F. Accessories: Provide as required for complete operational installation.
  1. Child Guards: Provide child and small animal guard on secured side of operator.

## 2.04 FINISHES

- A. Finish: Factory prime with DTM epoxy and paint with Gensis acrylic urethane topcoat to resist corrosion.
- 1. Color: [As selected from manufacturer's standard colors.] [Custom color as indicated on Finish Schedule.]
  - 2. The manufacturer's standard color is Sherwin Williams Gray.
  - 3. Specify color of gate if different from manufacturers standard color.
  - 4. If a color, other than standard gray, is ordered, the operator panels could be made from 16 gauge plate steel.

## PART 3 - EXECUTION

### 3.01 EXAMINATION

- A. Verification of Conditions: Verify concrete support slab complies with requirements and verify bollard spacing and alignment and verify anchors and conduits are properly installed.
  - 1. Ensure alignment with adjacent construction, fencing, and paving, coordinate with adjacent construction.

### 3.02 INSTALLATION

- A. Comply with manufacturer's recommendations and installation instructions.
  - 1. Install vertical pivot gate system to provide rigid and secure installation as indicated, straight and true to lines and levels indicated, for free, effortless operation.
  - 2. Install components square and level, accurately fitted and free from distortion and free from defects.
- B. Advise Owner regarding programmable features and controls and preset controls according to Owner requirements.
  - 1. Instruct Owner personnel in proper operation, maintenance, and reprogramming of system.

### 3.03 PROTECTION

- A. Protect vertical pivot gate system from damage during remainder of construction operations; replace components damaged by subsequent construction operations.
- B. Touch-up scratched and damaged surfaces using same primer and finish system applied in shop.

**END OF SECTION**