TIGER

COMPACT HINGE AND HYDRAULIC GATE CLOSER IN ONE

SECTION 087160 – Fence & Gate Hardware

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Gate Hardware.

B. Related Sections:

1. Section 02823 – Chain Link Fences and Gates
2. Section 16200 - Electrical Power
3. Section 16724 - Security Access Systems
4. Section 32310 – Fences & Gates

1.2 SUBMITTALS & SUBSTITUTIONS

A. SUBMITTALS: Submit six copies of schedule per Section 01330. Only submittals printed one sided will be accepted and reviewed. Organize vertically formatted schedule into "Hardware Sets" with index of doors and headings, indicating complete designations of every item required for each door or opening. Include following information:

1. Type, style, function, size, quantity and finish of hardware items.
2. Finish codes.
3. Name, part number and manufacturer of each item.
4. Fastenings and other pertinent information.
5. Description of door location using space names and numbers as published in the drawings.
6. Explanation of abbreviations, symbols, and codes contained in schedule.
7. Mounting locations for hardware.
8. Door and frame sizes, handing, materials, fire-rating and degrees of swing.
9. List of manufacturers used.
10. Catalog cuts.

11. Wiring Diagrams.

12. Manufacturer's technical data and installation instructions for electronic hardware.

B. Bid and submit manufacturer's updated/improved item if scheduled item is discontinued.

C. Deviations: Highlight, encircle or otherwise identify deviations from "Schedule of Finish Hardware" on submittal with notations clearly designating those portions as deviating from this section.

D. If discrepancy between drawings and scheduled material in this section, bid the more expensive of the two choices, note the discrepancy in the submittal and request direction from Architect for resolution.

E. Substitutions per Division 1. Include product data and indicate benefit to the Project. Furnish operating samples on request.

F. Items listed with no substitute manufacturers have been requested by Owner to meet existing standard.

G. Furnish as-built/as-installed schedule with closeout documents, including keying schedule, wiring diagrams, manufacturers' installation, adjustment and maintenance information, and supplier's final inspection report.

1.3 QUALITY ASSURANCE:

A. Qualifications:

1. Responsible for detailing, scheduling and ordering of finish hardware. Detailing implies that the submitted schedule of hardware is correct and complete for the intended function and performance of the openings.

B. Hardware: Free of defects, blemishes and excessive play. Obtain each kind of hardware (latch and locksets, exit devices, hinges and closers) from one manufacturer.

C. Exit Doors: Operable from inside with single motion without the use of a key or special knowledge or effort.

D. Furnish hardware items required to complete the work in accordance with specified performance level and design intent, complying with manufacturers' instructions.

1.4 DELIVERY, STORAGE AND HANDLING:

A. Delivery: coordinate delivery to appropriate locations (shop or field).

1. Permanent keys and cores: secured delivery direct to Owner's representative.

B. Acceptance at Site: Items individually packaged in manufacturers' original containers, complete with proper fasteners and related pieces. Clearly mark packages to indicate contents, locations in hardware schedule and door numbers.

C. Storage: Provide securely locked storage area for hardware, protect from moisture, sunlight, paint, chemicals, dust, excessive heat and cold, etc.

1.5 PROJECT CONDITIONS AND COORDINATION:

A. Where exact types of hardware specified are not adaptable to finished shape or size of members requiring hardware, provide suitable types having as nearly as practical the same operation and quality as type specified, subject to Architect's approval.

B. Coordination: Coordinate hardware with other work. Furnish hardware items of proper design for use on gate doors and gate posts of the thickness, profile, swing, security and similar requirements indicated, as necessary for proper installation and function, regardless of omissions or conflicts in the information on the Contract Documents. Furnish related trades with the following information:

1. Location of embedded and attached items to concrete.
2. Location of finish floor materials and floor-mounted hardware.
3. Locations for conduit and raceways as needed for electrical, electronic and electro-pneumatic hardware items. Fire/life-safety system interfacing. Point-to-point wiring diagrams plus riser diagrams to related trades.
4. Manufacturer templates to gate door and gate posts fabricators.

C. Check Shop Drawings for doors and entrances to confirm that adequate provisions will be made for proper hardware installation. Do not order hardware until the submittal has been reviewed by the gate door suppliers for compatibility with their products.

D. Prior to submittal, carefully inspect existing conditions at each opening to verify finish hardware required to complete Work, including sizes, quantities, existing hardware scheduled for re-use, and sill condition material. If conflict or incompatibility between the specified/scheduled hardware and existing conditions, submit request for direction from Architect. Include date of jobsite visit in the submittal.

1. Submittals prepared without thorough jobsite visit by qualified hardware expert will be rejected as non-compliant.

1.6 WARRANTY:

A. Part of respective manufacturers' regular terms of sale. Provide manufacturers' written warranties:

1. Gate Closers: Three years

1.7 COMMISSIONING:

A. Conduct these tests prior to request for certificate of substantial completion:

1. With installer present, test door hardware operation.
2. With installer, access control contractor and electrical contractor present, test electrical, electronic and electro-pneumatic hardware systems for satisfactory operation.
3. With installer and electrical contractor present, test hardware interfaced with fire/life-safety system for proper operation and release.

PART 2 - PRODUCTS

2.1 MANUFACTURERS:

A. Listed acceptable alternate manufacturers: submit for review products with equivalent function and features of scheduled products.

ITEM:	MANUFACTURER:	ACCEPTABLE SUB:
Gate Hinge/Closer	(LOC) Locinox	AS SPEC'D

2.2 GATE HINGE/CLOSER

A. Gate Hinge/Closer: Shall be Tiger.

1. The gate closer shall be 100% mechanical (no electronic components).
2. It shall be possible to adjust the closing speed of the gate by simply adjusting a valve with an Allen key.
3. It shall be possible to activate a final snap (free run) on the gate closer to ensure the latching of the gate.
4. It shall be possible to eliminate the final snap (free run) on the gate closer completely in order to have a silent closing (i.e. in combination with magnetic locks).

5. The gate closer shall allow for a 180 degrees opening angle of the gate.
6. When opened 180 degrees, the gate closer should self-close over the 180 degrees.
7. The corresponding bottom hinge for the gate closer shall be included.
8. The gate closer should have a hydraulic dampening mechanism.
9. The gate closer should be designed and manufactured in Europe or in the United States.
10. The gate closer shall be ADA and ROSPA compliant.
11. The gate closer should have double rubber sealings to avoid oil leakage at all times.
12. The gate closer should use rotary seals (vs. linear) seals to ensure the longevity of the closer.
13. The gate closer shall be able to close gates up to 75 kilo / 220 lbs and gate width up to 1,1m / 3-1/2".
14. The opening pressure of the gate closer shall be between 3 and 5 lbs. maximum (15Nm maximum) over the full 180 degrees.
15. The gate closer shall be available in either a black or silver color.
16. The gate closer shall be specifically made for outdoor use.
17. The hydraulic dampening shall be guaranteed to work properly under all temperature circumstances without any summer or winter adjustments, measured at a 90° opening. The viscosity of the oil shall have no impact on the performance of the gate closer.
    a) The closing time shall not be below 10 seconds at 70 degrees Celsius or 160 Fahrenheit (summer).
    b) The closing time shall not be longer than 30 seconds at -30 degrees Celsius or -22 Fahrenheit (winter).
18. The closer shall have been tested for 500,000 movements.
19. The closer shall be maintenance free (no greasing nor oil refill).
20. The mechanism shall be made out stainless steel and aluminum components.
21. The housing of the mechanism shall be made from extruded, powder coated aluminum (no wet painting or anodization). The powder coating shall be according to the Qualicoat standards.
22. The gate closer shall have a corrosion resistance of 500h salt spray according to ISO9227.

23. The gate closer shall be fully weather- and dustproof.
24. The gate closer shall have a UV-resistance against discoloration of 500h.

PART 3 - EXECUTION

3.1 ACCEPTABLE INSTALLERS:

A. Can read and understand manufacturers' templates, suppliers' hardware schedules and printed installation instructions. Can readily distinguish drywall screws from manufacturers' furnished fasteners. Available to meet with manufacturers' representatives and related trades to discuss installation of gate hardware.

3.2 PREPARATION:

A. Ensure that posts are square and plumb before gate hardware installation. Make corrections before commencing gate hardware installation.

B. Existing gate posts and gate doors to be retrofitted with new hardware:

1. Field-verify conditions and dimensions prior to ordering hardware. Fill existing hardware cut outs not being reused by the new hardware. Remove existing hardware not being reused, return to Owner unless directed otherwise.
2. Remove existing floor closers not scheduled for reuse, fill cavities with concrete and finish smooth
3. Provide wrap-around repair plates at doors where required to cover the original preparation and allow installation of new hardware.

3.3 INSTALLATION

A. It shall be possible to mount the closer on minimum gate profiles of 35mm (1-3/8") and with a material thickness of min. 2mm (.083") in openings of 15mm (9/16") pre-drilled according to a drilling template.

B. The closer shall have pre-mounted fasteners (no welding) with stainless steel bolts. All brackets for fixation should come with the product.

C. The same closer shall be able to be used for both left and right turning gates.

D. The closer shall not require a gate stop to be used for limiting the opening angle.

E. A 3D-installation explanatory video shall be available for assisting the installer.

F. Drilling templates shall be included for assisting the installer.

G. An optional drilling jig should be recommended for a correct installation.

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3.4. ADJUSTING

A. Adjust and check for proper operation and function. Replace units, which cannot be adjusted to operate freely and smoothly.

1. Hardware damaged by improper installation or adjustment methods: repair or replace to Owner's satisfaction.

2. Adjust closers so door can fully latch with no more than 1 pound of pressure.

B. Final inspection: Installer to provide letter to Owner that upon completion installer has visited the Project and has accomplished the following:

1. Re-adjust hardware.

2. Evaluate maintenance procedures and recommend changes or additions, and instruct Owner's personnel.

3. Identify items that have deteriorated or failed.

4. Submit written report identifying problems

3.5 DEMONSTRATION:

A. Demonstrate closer, including adjustment and maintenance procedures.

3.6 PROTECTION/CLEANING:

A. Cover installed hardware, protect from paint, cleaning agents, weathering, carts/barrows, etc. Remove covering materials and clean hardware just prior to substantial completion.

B. Clean adjacent wall, post and door surfaces soiled from installation/reinstallation process.

3.7 SCHEDULE OF FINISH HARDWARE

A. See door schedule in drawings for hardware set assignments.