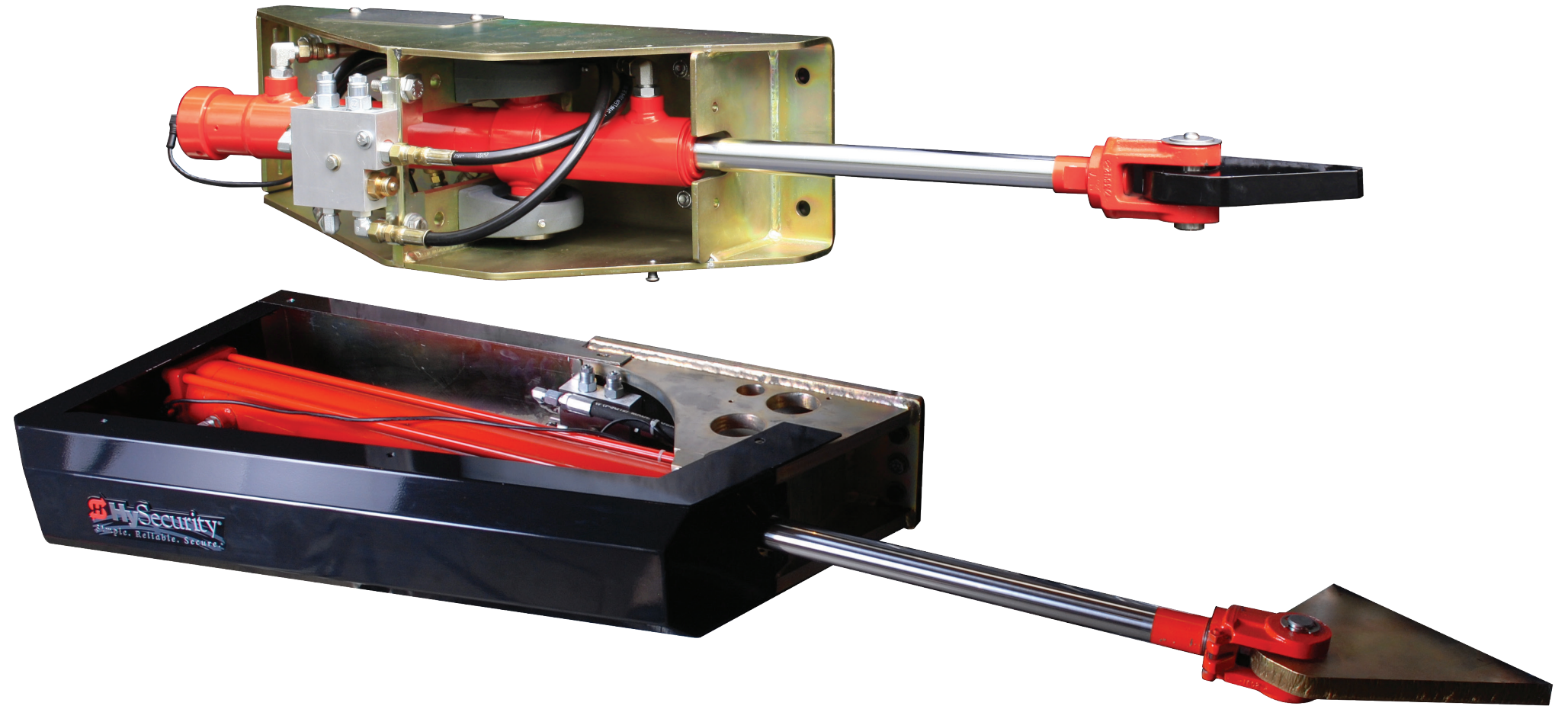
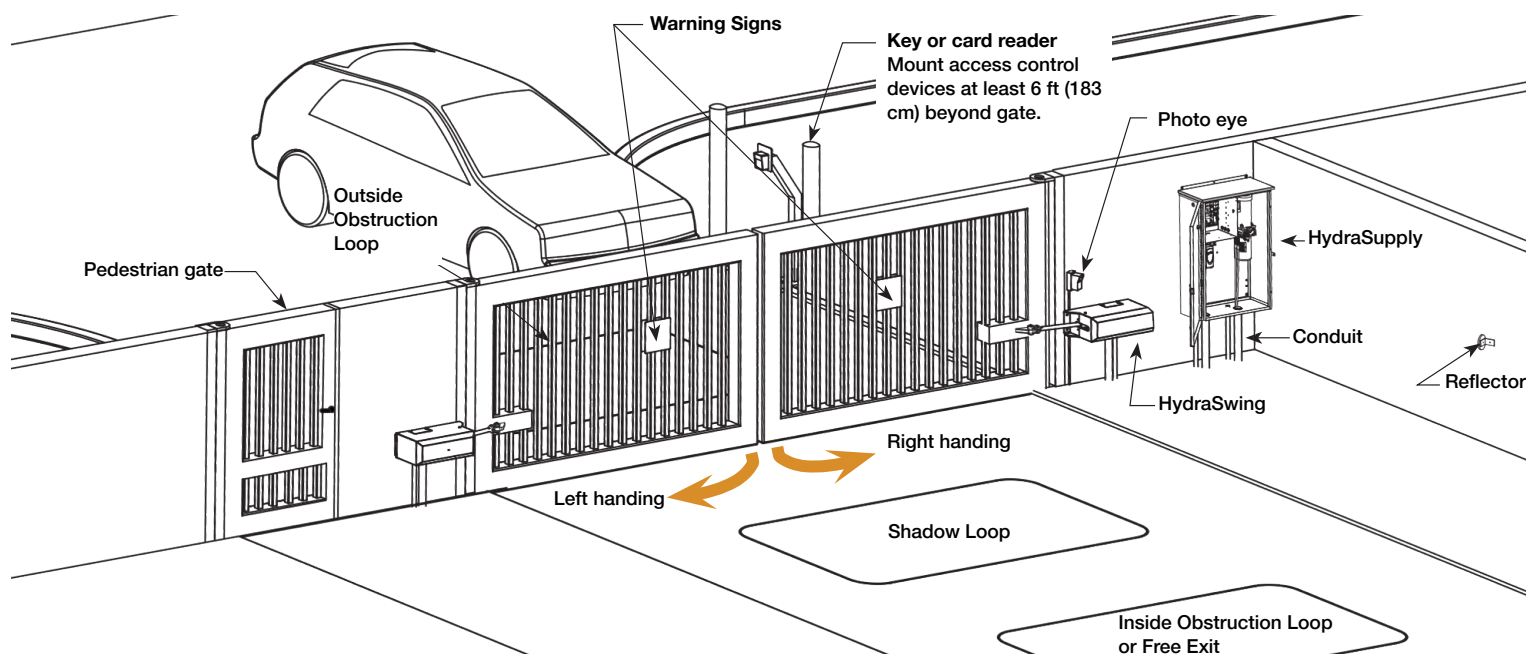


HydraSwing™



Installation Instructions

HydraSwing: Plan Site Design



For proper sequencing of bi-parting (dual) gate systems, it is critical that the hydraulic cylinder be fully extended. See "Determine Arm Geometry: 40 & 40F" on page 4.



Be sure to place the WARNING signs on the gate. For your records, take a photograph of the completed installation site.

4 Install conduit for communication and power

Locate and install the HydraSupply within 50 feet (6.1 m) of the HydraSwing gate operator.

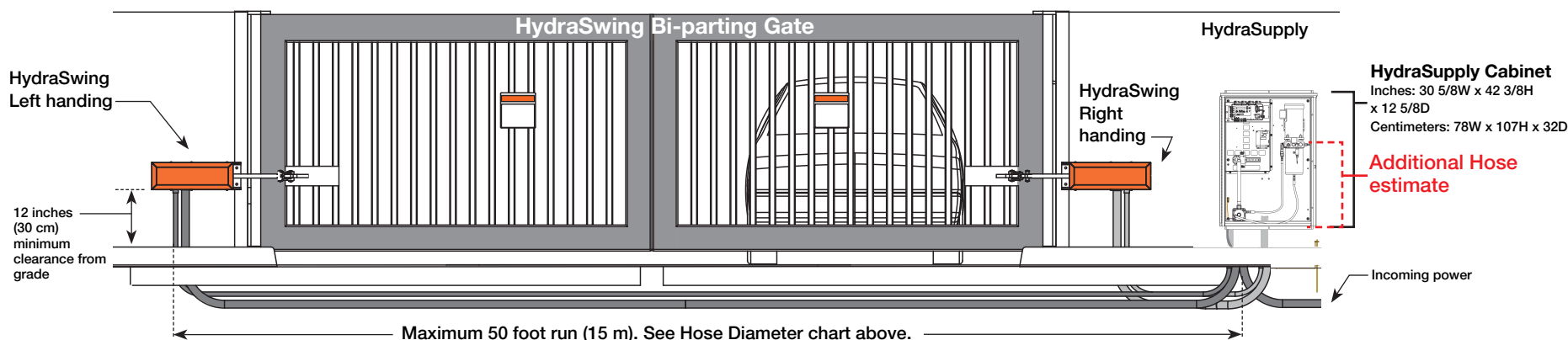
NOTE: Order hose through HySecurity. See CAUTION.

Hose length in feet (Total Run)	Hose Diameter: Model 40 & 40F, Twin	Hose Diameter: Model 80F & Model 150
0 to 50 ft	3/8 inch	3/8 inch
50 to 100 ft	3/8 inch	1/2 inch*

Minimum conduit required	No.	Min. Size	cm
3/8 inch Hydraulic hoses*	1	2 inch	5
1/2 inch Hydraulic hoses*	1	3 inch	7.6
Sensor wire to operator	1	3/4 inch	2
AC Main power	1	1 inch	2.5

Additional conduit may be ordered and used for:	No.	Min. Size	cm
Bi-parting gate connection for low voltage wiring	1	1 inch	2.5
Heater or Emergency Release options	2	3/4 inch	2

*NOTE: HydraSwing orders include two (2) fluid-charged hoses and attached fittings totaling up to 50 ft (15 m). Additional hose is billed by the foot. For HydraSwing 80F and 150, use 1/2-inch hose and fittings where the HydraSupply cabinet is installed more than 50 ft from the actuator AND temperatures routinely fall below 0°F. For distances between the HydraSupply and actuator longer than 100 ft (30 m), contact Tech Support.



1 Read & Plan

Refer to the HydraSupply II Installation and Programming manual prior to installing the HydraSwing. Read and follow these installation instructions and make sure to conform to site specifications and all local and federal regulations and codes.

2 Measure and Calculate

Pay attention to gate swing (retracted or extended cylinder) and clearance around the mounting location. Consider right handing and left handing. Allow for access to brake valves.

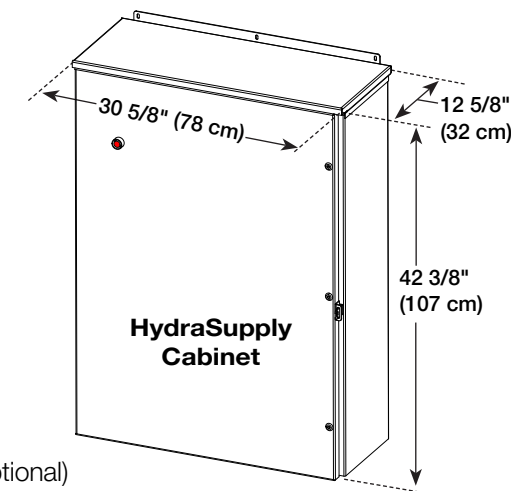
Use the charts, provided on pages 3 and 4, to determine gate geometry and placement of the chassis and gate mount.

NOTE: For twin units (but not single), it is critical to measure and plan gate installation such that cylinder is fully extended when gate is closed (see mounting dimensions).

3 Design Vehicle Loops

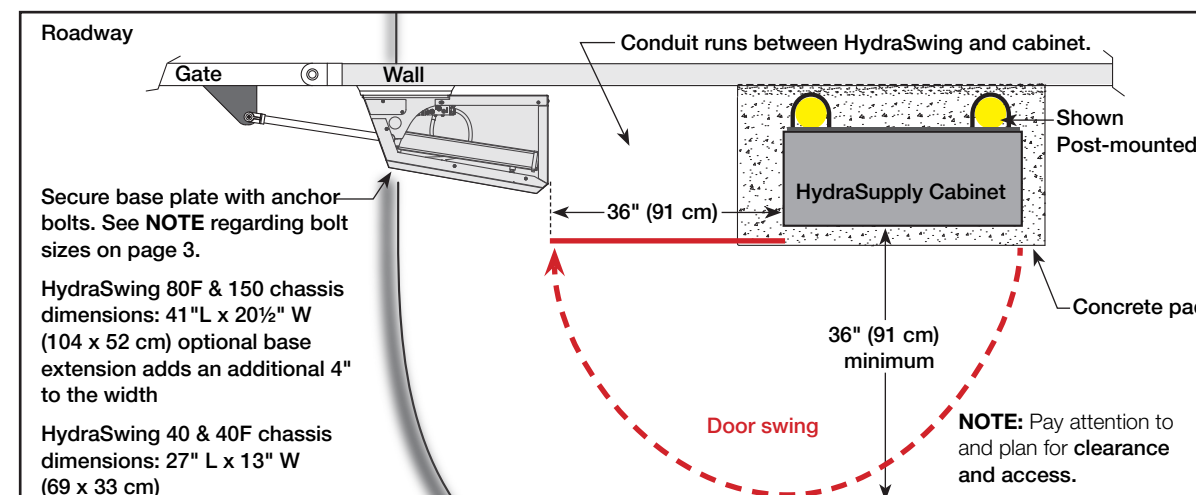
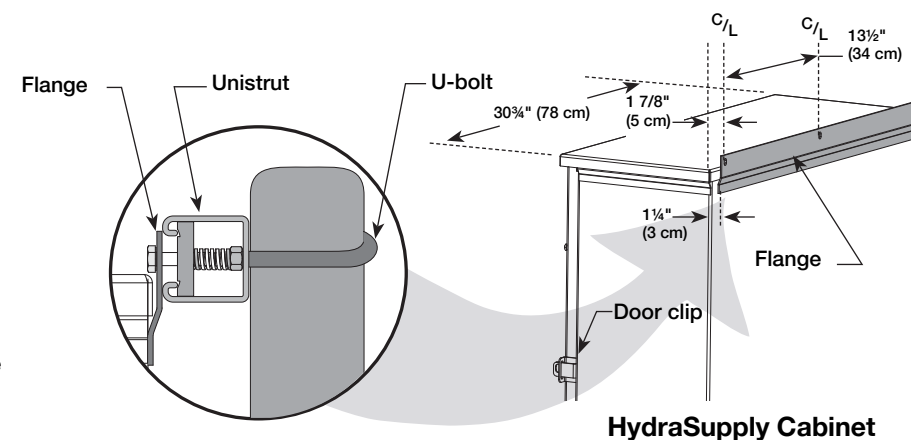
Three loops are preferred: SHADOW, IOLD, OOLD (Free Exit, optional)

NOTE: Loop layout is dependent on uni- or bi-directional traffic and length of gate and width of roadway. Vehicle must move from one loop to the next without loss of detection. The site design shown on this page is for illustrative purposes only.

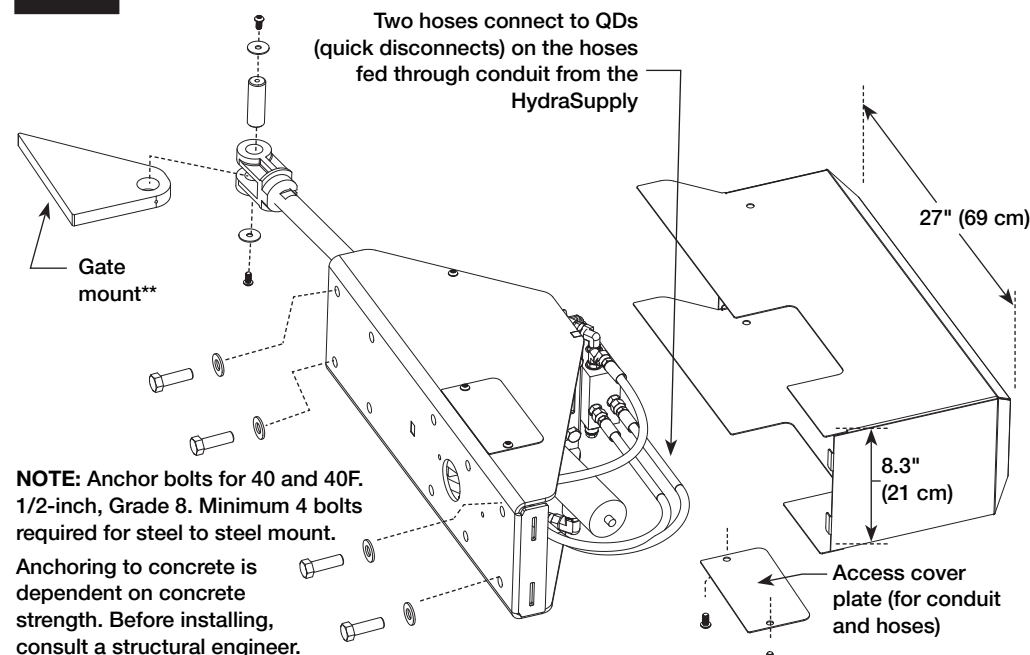


Wall or post-mount the HydraSupply cabinet.

If planning a post mount, mounting holes need to be drilled (U-bolts, fasteners, and unistrut are not provided). Cabinet may also be wall-mounted with anchor bolts. **NOTE:** The mounting holes on the top and bottom flanges are 5/16-inch diameter.



1a

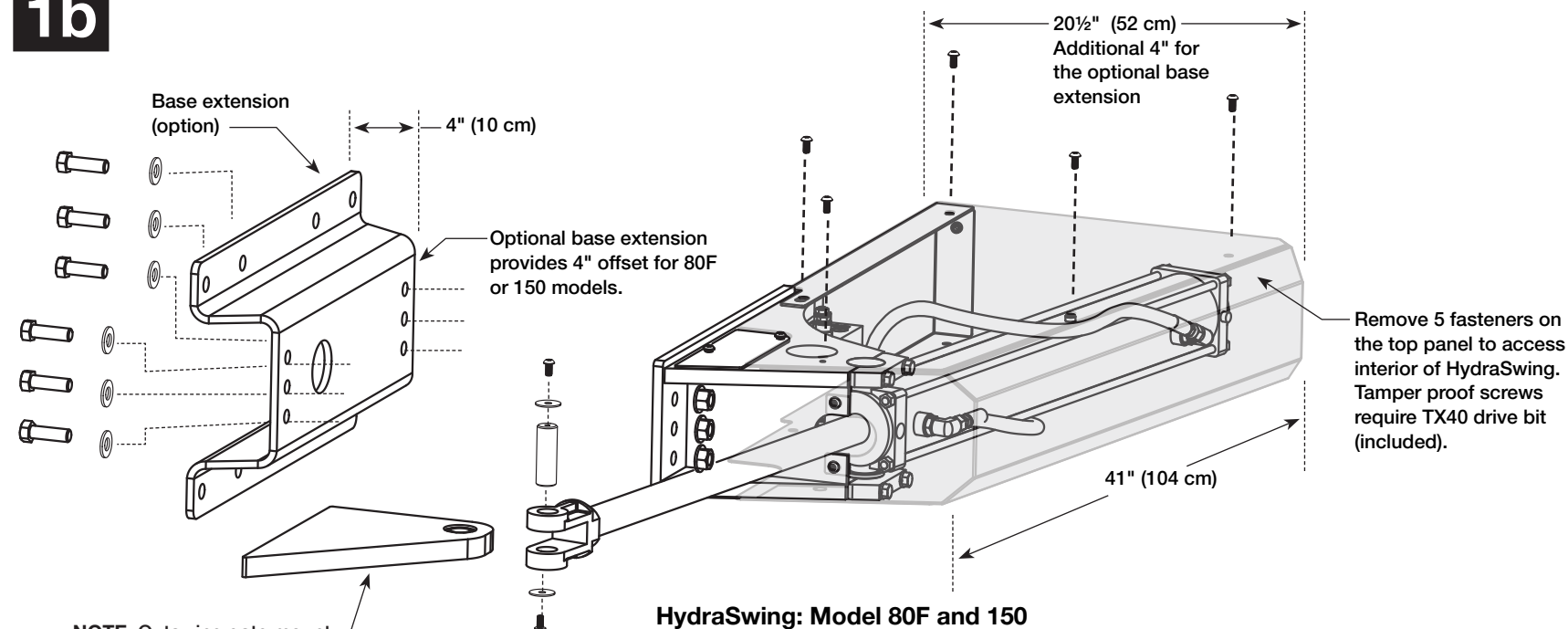


HydraSwing: Model 40 and 40F

HydraSwing 40 & 40F chassis dimensions:
27" L x 13" W (69 x 33 cm)

**NOTE: Depending on whether the chassis is mounted recessed or elevated, you will need to modify the gate mount to accommodate the gate geometry.

1b



HydraSwing: Model 80F and 150

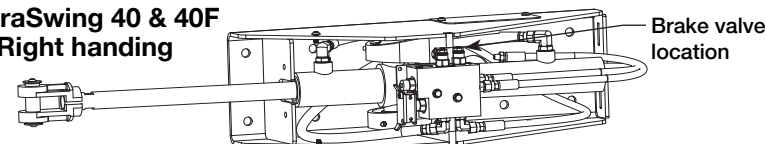
HydraSwing 80F & 150 chassis dimensions:
41"L x 20 1/2" W (104 x 52 cm) optional base extension adds an additional 4 inches to the width

NOTE: Outswing gate mount requires customer fabrication. See pages 4 and 5.

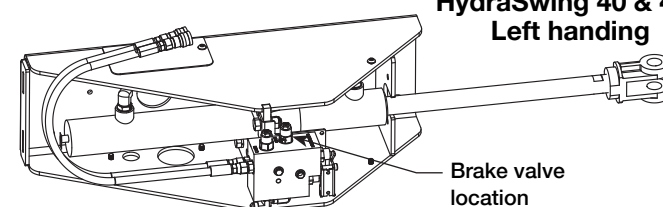
1. Assemble and secure chassis to mounting surface.*
2. The actuator must be installed so that both cylinders are fully extended at the close limit. The position and measurement can be checked by hand pumping the gate closed until the cylinder stops. When fully extended, the shiny chrome part of the actuator cylinder should be extended 14" on both gates. See the dimensions for reference.
3. Feed hoses through conduit and connect them to the QD fittings (quick disconnects).
4. Ground the gate operator.
5. Connect black, white, and blue matching color sensor wires to terminal block. Remove the white connector if necessary.

*NOTE: Refer to Arm Geometry, on pages 3 and 4, for mounting dimensions and requirements. It is recommended the actuator be tack welded or bolted initially in order to allow easier remounting if required during installation.

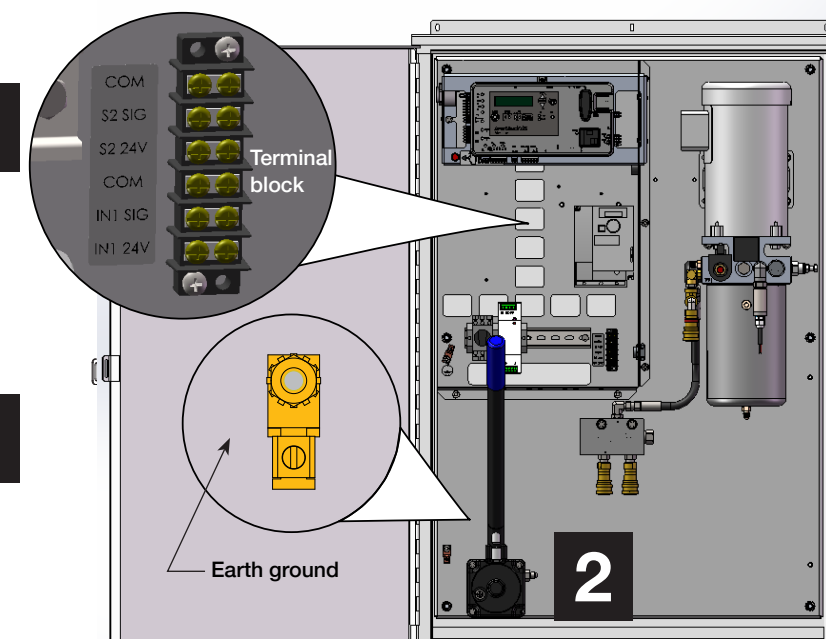
**HydraSwing 40 & 40F
Right handing**



**HydraSwing 40 & 40F
Left handing**

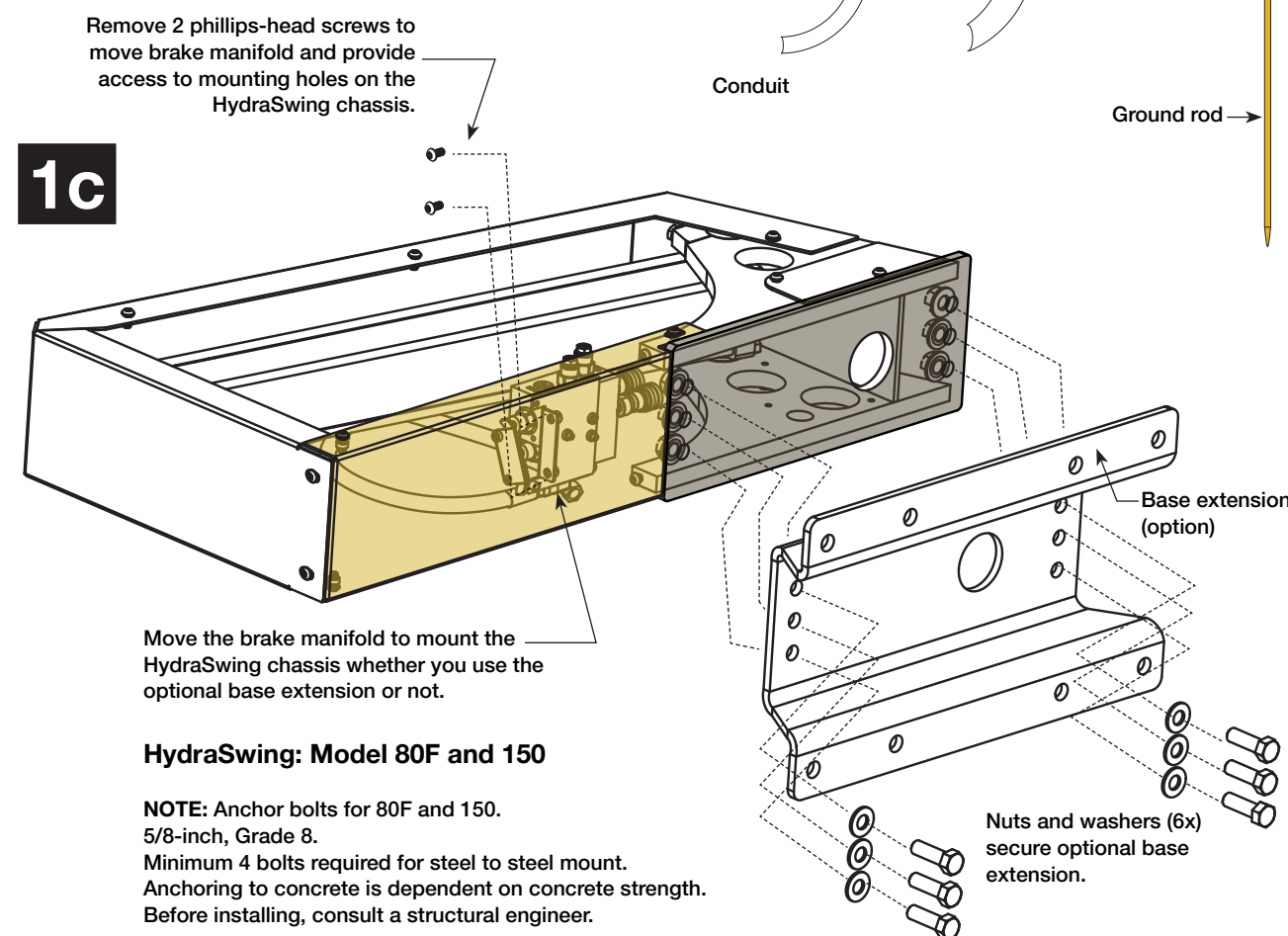


4



3

1c



HydraSwing: Model 80F and 150

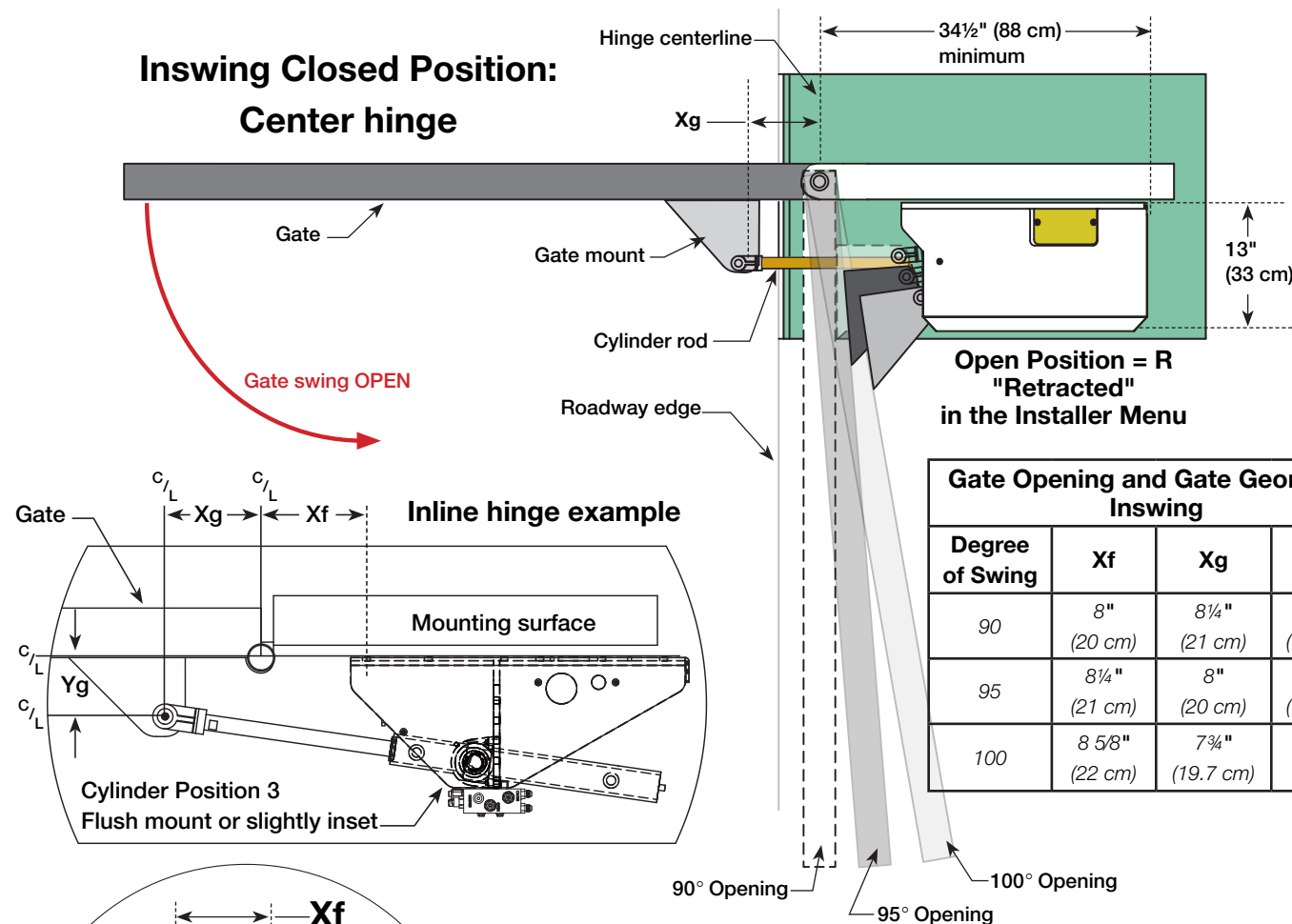
NOTE: Anchor bolts for 80F and 150. 5/8-inch, Grade 8. Minimum 4 bolts required for steel to steel mount. Anchoring to concrete is dependent on concrete strength. Before installing, consult a structural engineer.

Drawings NOT to Scale

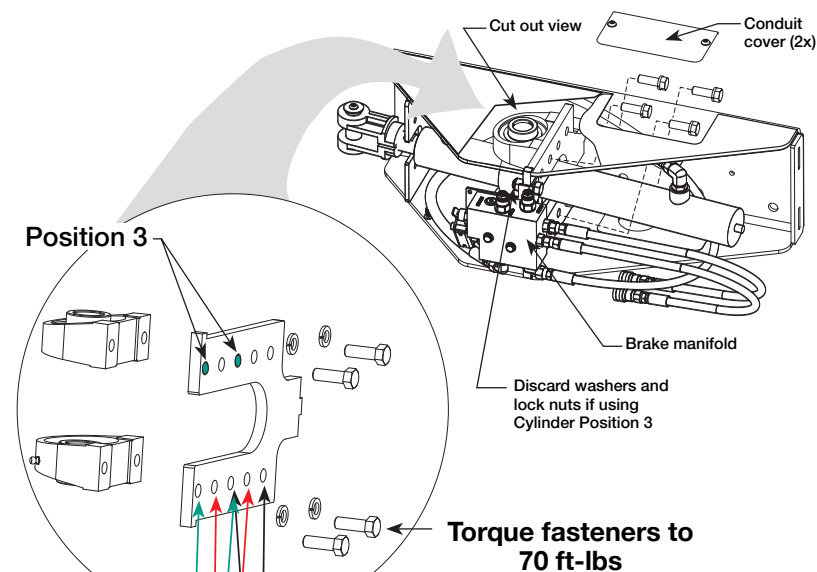
Determine Arm Geometry: 40 & 40F

1 **Close the gate.** Measurements are based on a closed gate. Use the hand pump, if necessary. **For bi-parting (dual) gates and proper sequencing on HydraSwing 40 Twin or 40F Twin models, the hydraulic cylinder must be fully extended. Abiding by arm geometry on this page is critical. The cylinder must be fully extended when on the close limit. Especially important on twin units.**

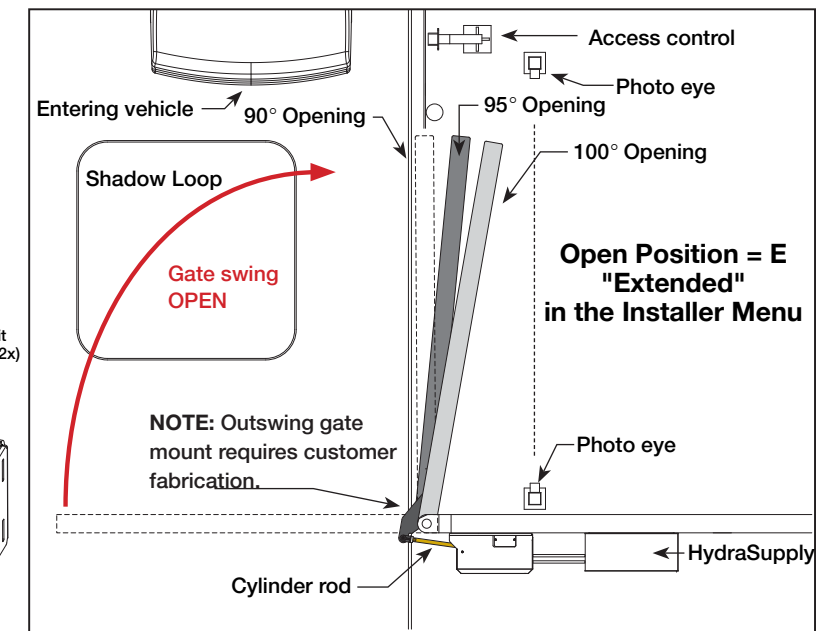
2 Three cylinder positions adjust for the differences in surface mounting requirements: shimmed, flush, or inset (notched). For example, inset type mounts use Cylinder Position 3.



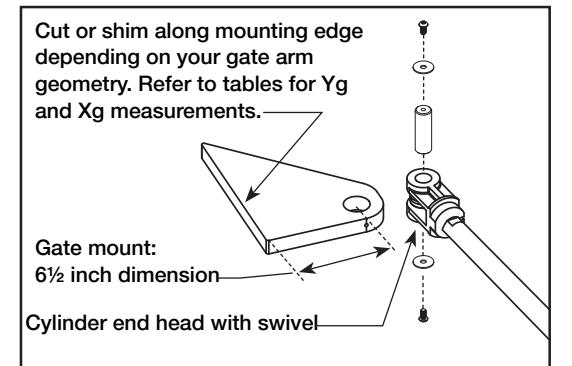
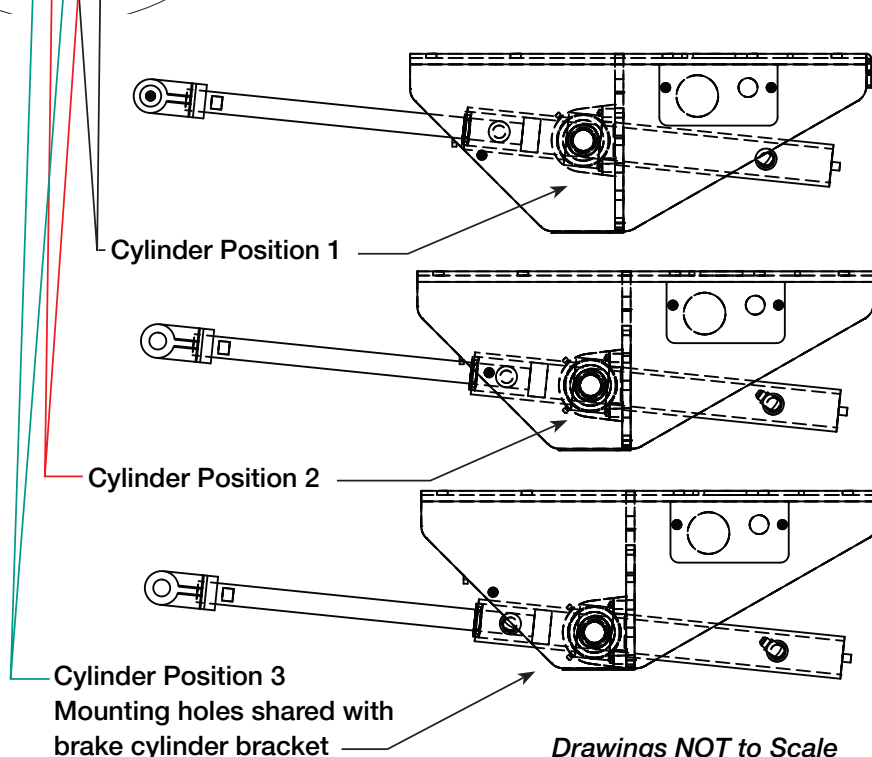
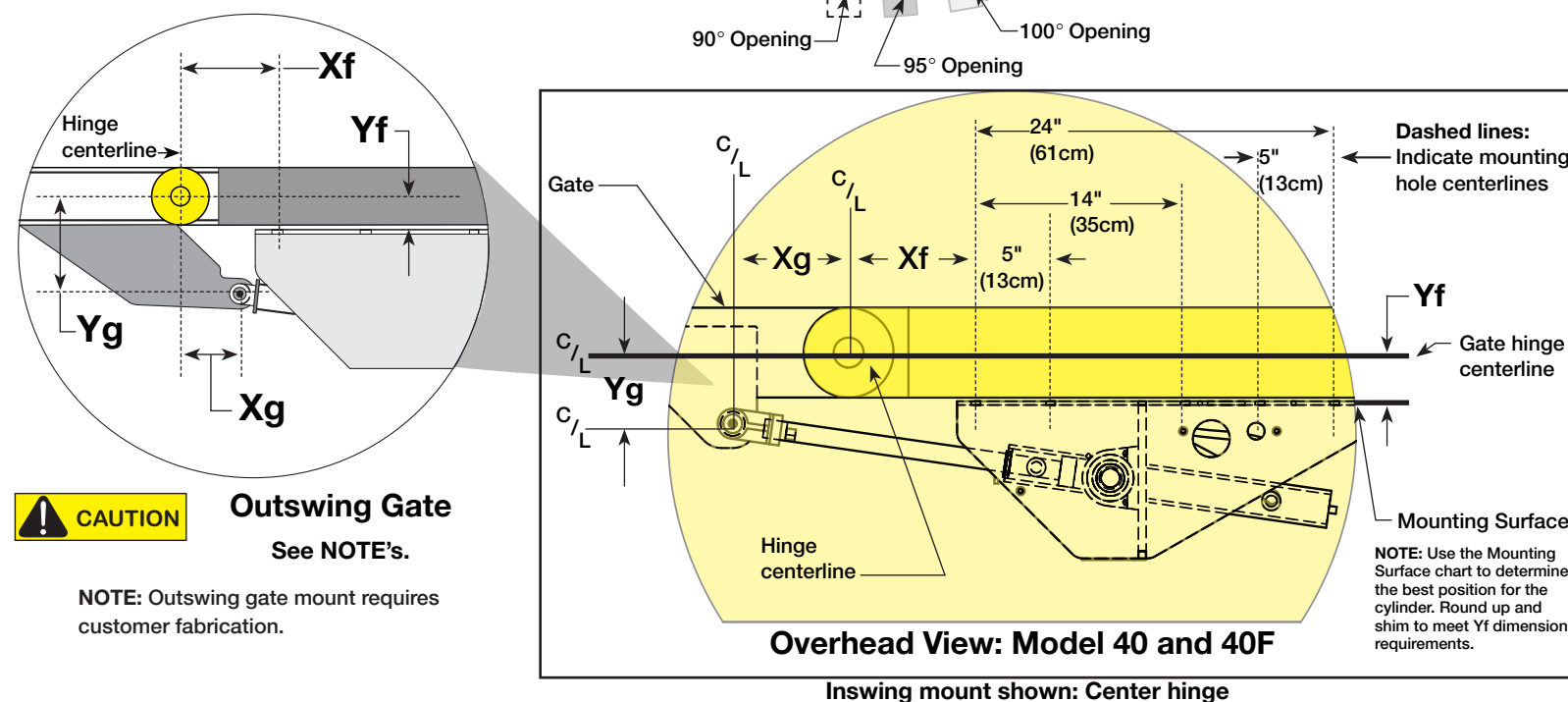
Mounting Surface: Shimmed, Flush, or Inset	
If Yf dimension is between	Then use Cylinder Position
2 3/4" to 3 3/4" (7 to 9.5 cm)	1
1 to 2" (2.5 to 5 cm)	2
0 ± 1/2" (0 ± 1.3 cm)	3



Outswing Open Position: Center hinge



Gate Opening and Gate Geometry: Outswing			
Degree of Swing	Xf	Xg	Yg
90	8" (20 cm)	5 1/4" (13.3 cm)	8 1/2" (21.6 cm)
95	8 1/4" (21 cm)	5 5/8" (14.3 cm)	7 1/2" (19 cm)
100	8 5/8" (22 cm)	6" (15.2 cm)	6 3/4" (17.1 cm)

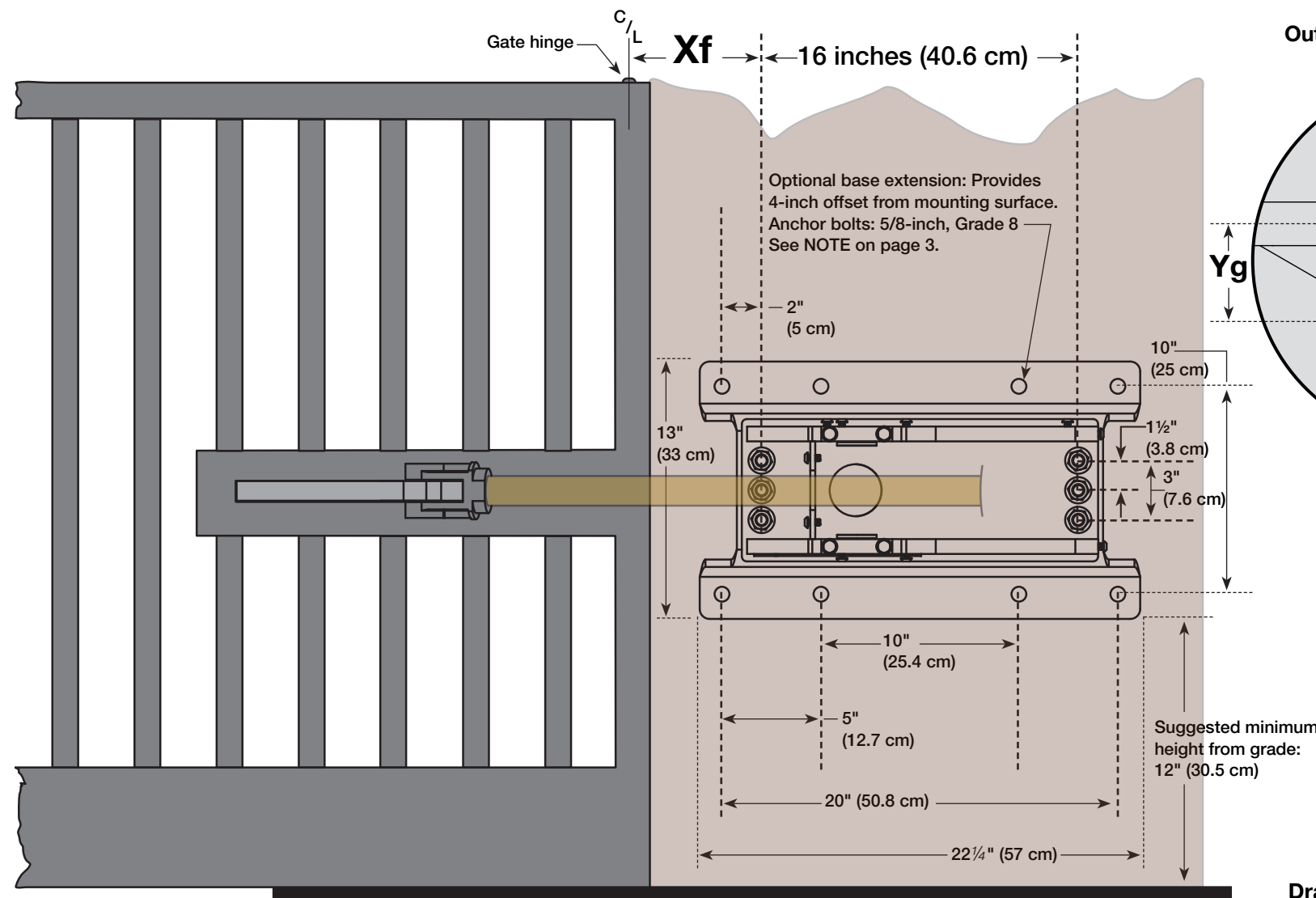


CAUTION

Use the measurements for your gate type: **Inswing or Outswing.**

Measure and cut (or shim) gate mount to meet the Yg requirement. Fasten the gate mount to the cylinder to meet the Xg requirement. Tack weld until hoses available or the accuracy of the dimensions are confirmed. The gate mount and cylinder need to remain in a horizontal plane throughout gate travel. If any vertical movement occurs, the load on the cylinder is strained and will lessen its life and void the Warranty.

Determine Arm Geometry: 80F & 150

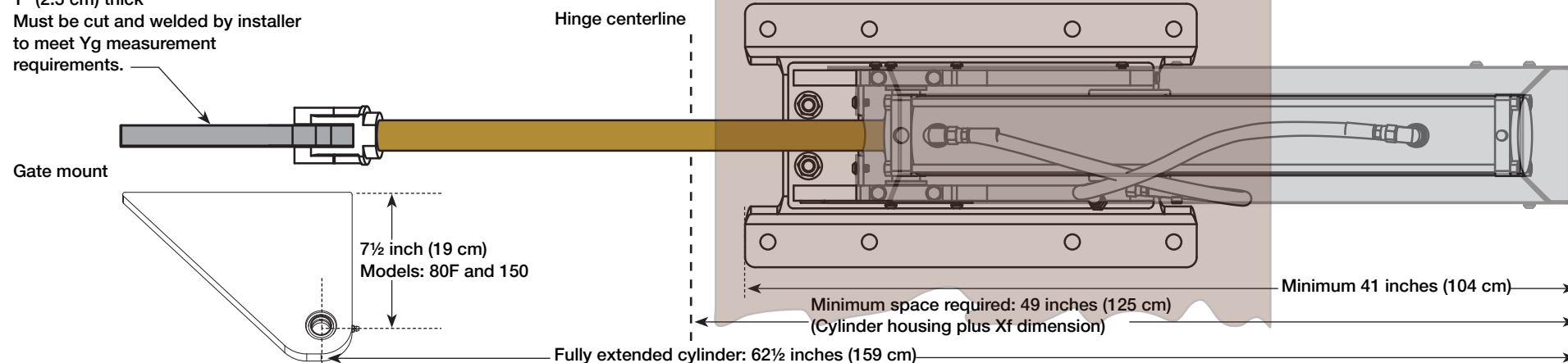


HydraSwing: Model 80F and 150

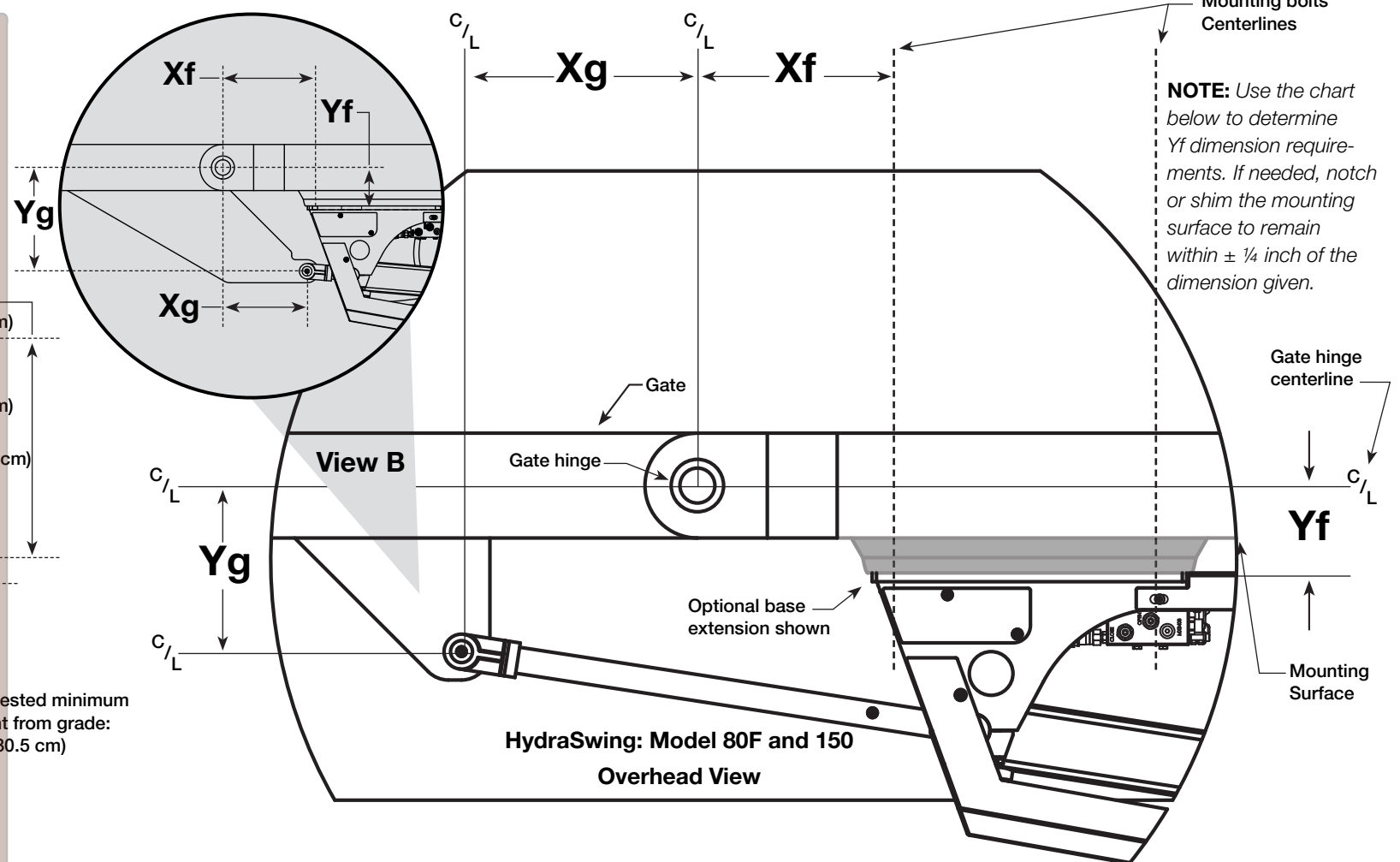
Mounting Dimension 90° Opening with Optional Base Extension: Provides 4-inch offset

Mounting tab included: 1" (2.5 cm) thick

Must be cut and welded by installer to meet Y_g measurement requirements.



Outswing gate mount requires customer fabrication



Drawings NOT to Scale

1

To assemble the HydraSwing 80F or 150, close the gate. Take measurements based on a closed gate position.

2

Determine the best geometry for your site. An optional 4-inch base extension may be ordered to help create the appropriate Y_f mounting surface dimension.



The gate mount and cylinder need to remain in a horizontal plane throughout gate travel. If any vertical movement occurs, the load on the cylinder is strained and will lessen its life and void the Warranty.

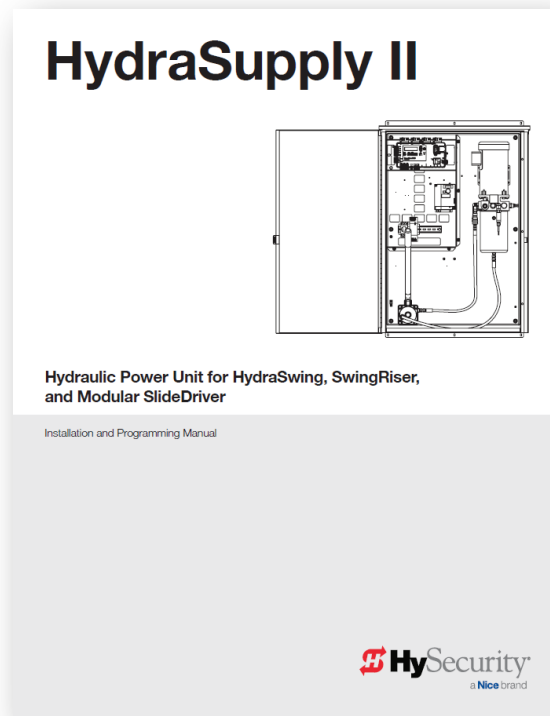
Gate Opening and Gate Geometry: 80F & 150				
Degree of Swing	X_f	X_g	$Y_f \pm 1/4"$	Y_g
90	11" (28 cm)	13 1/2" (34.3 cm)	5" (12.7 cm)	9 1/2" (24.1 cm)
100	11 1/4" (28.6 cm)	13 1/4" (33.6 cm)	3 1/2" (8.9 cm)	8" (20.3 cm)

Gate Geometry: View B Outswing: 80F & 150				
Degree of Swing	X_f	X_g	$Y_f \pm 1/4"$	Y_g
90	12" (30.5 cm)	11" (28 cm)	5" (12.7 cm)	13 1/2" (34.3 cm)

Power connection

Instructions for connecting power are located in the *HydraSupply II Installation and Programming Manual*.

Follow all safety and wiring instructions in the *HydraSupply II Installation and Programming Manual*.



Turning the Power Switch ON

The AC power disconnect switch (ON/OFF switch) is located on the same enclosure as the STC keypad and display.

Site Considerations

HySecurity gate operators are intended for permanent installation. Make sure you prepare the site with the following considerations:

- Make sure all electrical wiring is properly routed via conduits.
- Check the distance of the wire run from the main panel to the gate operator. Make sure the wire size of the branch circuit supplying power to the gate operator is large enough to avoid excess voltage drop. Refer to *Wire Sizing and Runs* in the *HydraSupply II Installation and Programming manual*.
- Make sure the available power source matches the electrical requirements specified on the voltage nameplate.
- For three-phase voltages, a 20A circuit breaker is required. For single-phase voltages, a 30A circuit breaker is required.
- Verify that the operator is electrically grounded per NFPA 780 and NEC Article 250, and local codes.

NOTE: Refer to the *HydraSupply II Installation and Programming Manual* for important safety instructions, programming, troubleshooting, maintenance, and general information

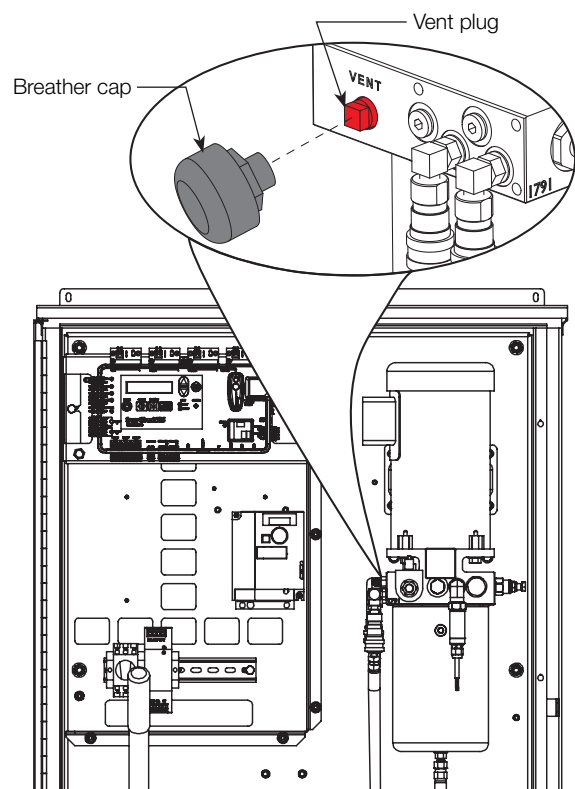
Replace Vent Plug with Breather Cap



Failure to perform the following procedure will cause premature pump shaft failure and void the Warranty.

The gate operator has a vent plug that keeps the hydraulic fluid from spilling during shipment. The vent plug must be replaced by the breather cap before operating the swing gate.

- Remove the vent plug and discard it.
- Replace the vent plug with the breather cap.



Manual Release



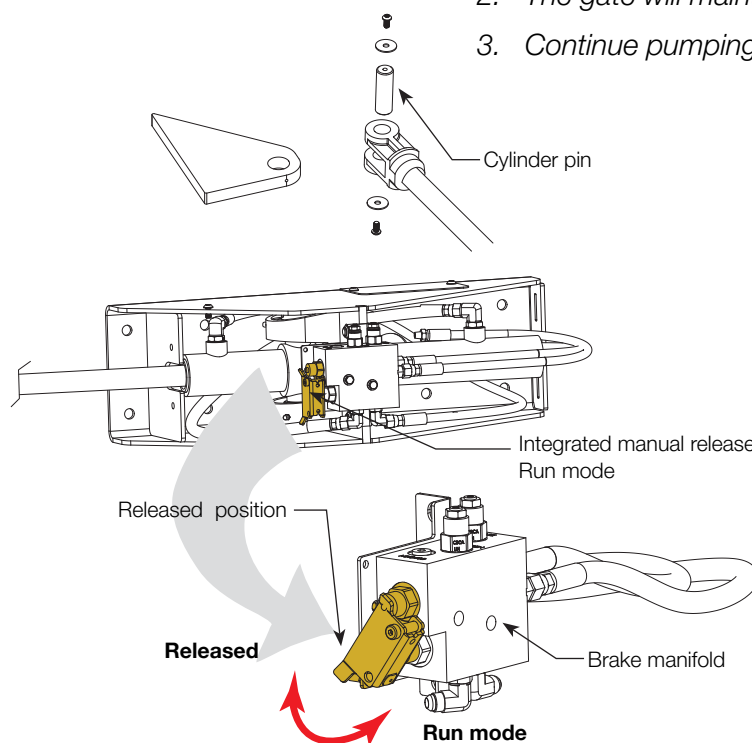
Before attempting a manual release, make sure the gate is not in motion and power is disconnected (turned OFF).

The Manual Release is used to manually OPEN the gate for emergency access. To manually OPEN and CLOSE the gate during installation or power failure, use the Manual Hand Pump. When the hoses are installed, the gate may be opened (cylinder retracted) manually by moving the release lever as shown in the illustration.

NOTE: For models 80F and 150, DO NOT extend the cylinder using the manual release lever. Refer to CAUTION below. Outswing installation sites must pull the cylinder pin (disengages the gate from the operator) or use the hand pump.



Pushing the gate closed when the lever is in the released position may cause an air pocket to form in the hydraulic cylinder and cause overflow from the reservoir. If you notice fluid leakage, stop gate travel immediately and use the hand pump.



Manual Hand Pump: 40, 40F, 80F and 150 Models

When the hoses are installed, a hand pump can be used to manually operate the hydraulic mechanism that secures the gate. In the event of a power failure, manual operation is achieved by accessing the hydraulics cabinet. Follow the steps below to open or close the gate:

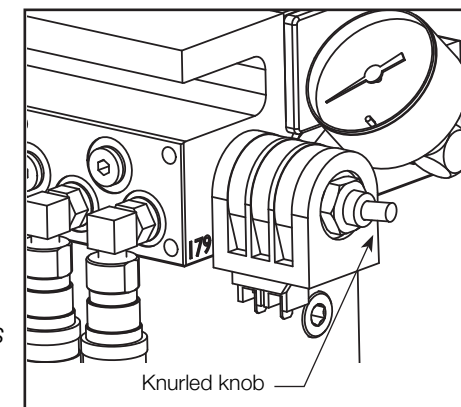
NOTE: An integrated manual release mechanism exists on the brake manifold assembly.

Open the Gate using the Hand Pump

1. Open the HydraSupply cabinet.
2. Turn the power switch OFF.
3. Locate the hand pump and the Knurled Knob on the Open Valve.
4. Firmly, pull and twist the knurled knob counterclockwise. Release the knob so that it remains in the open position.

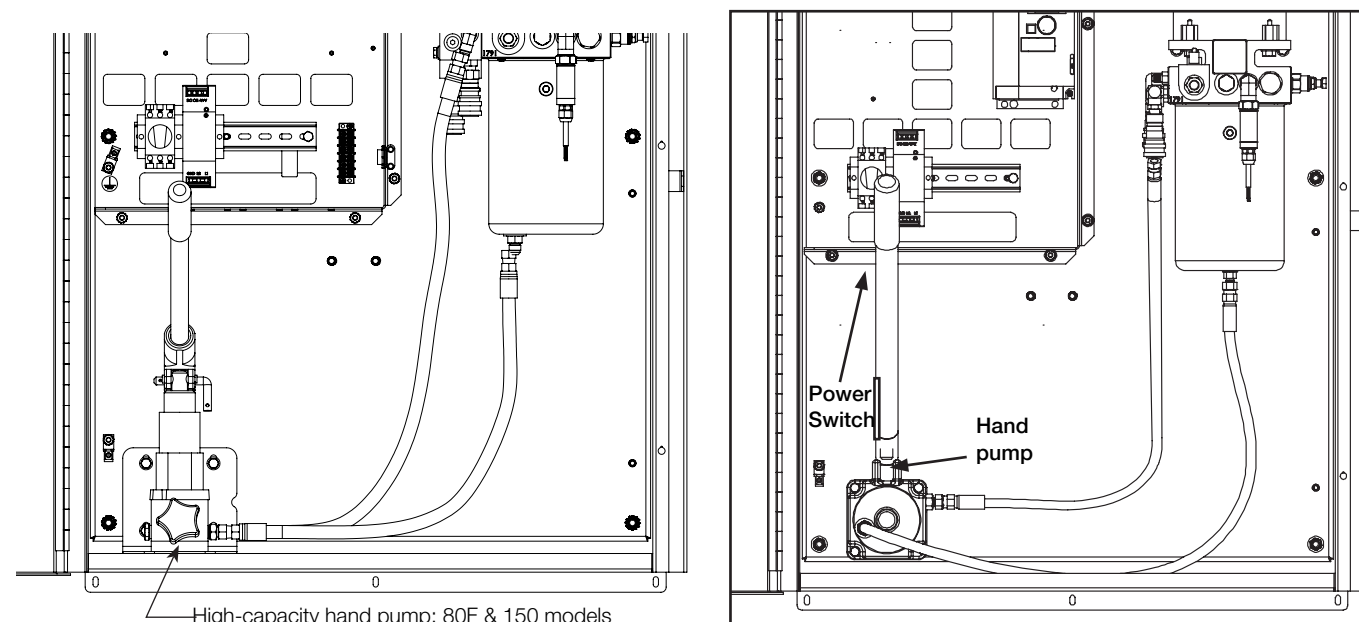
NOTE: If the valve re-seats itself, repeat the pull and twist in the opposite direction until the valve remains open.

5. Begin pumping the handle up and down. As hydraulic fluid is pumped into the cylinder, it begins to move the gate.
6. Continue pumping until the gate reaches full open position.
7. Turn the knurled knob so it springs back to the closed position.

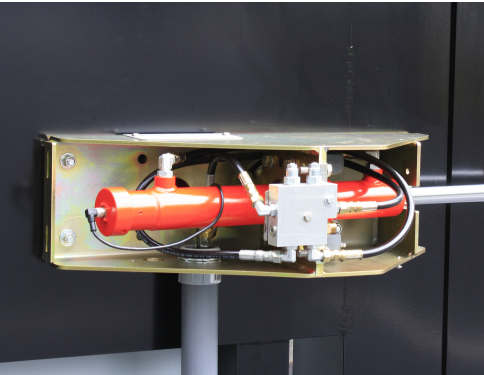
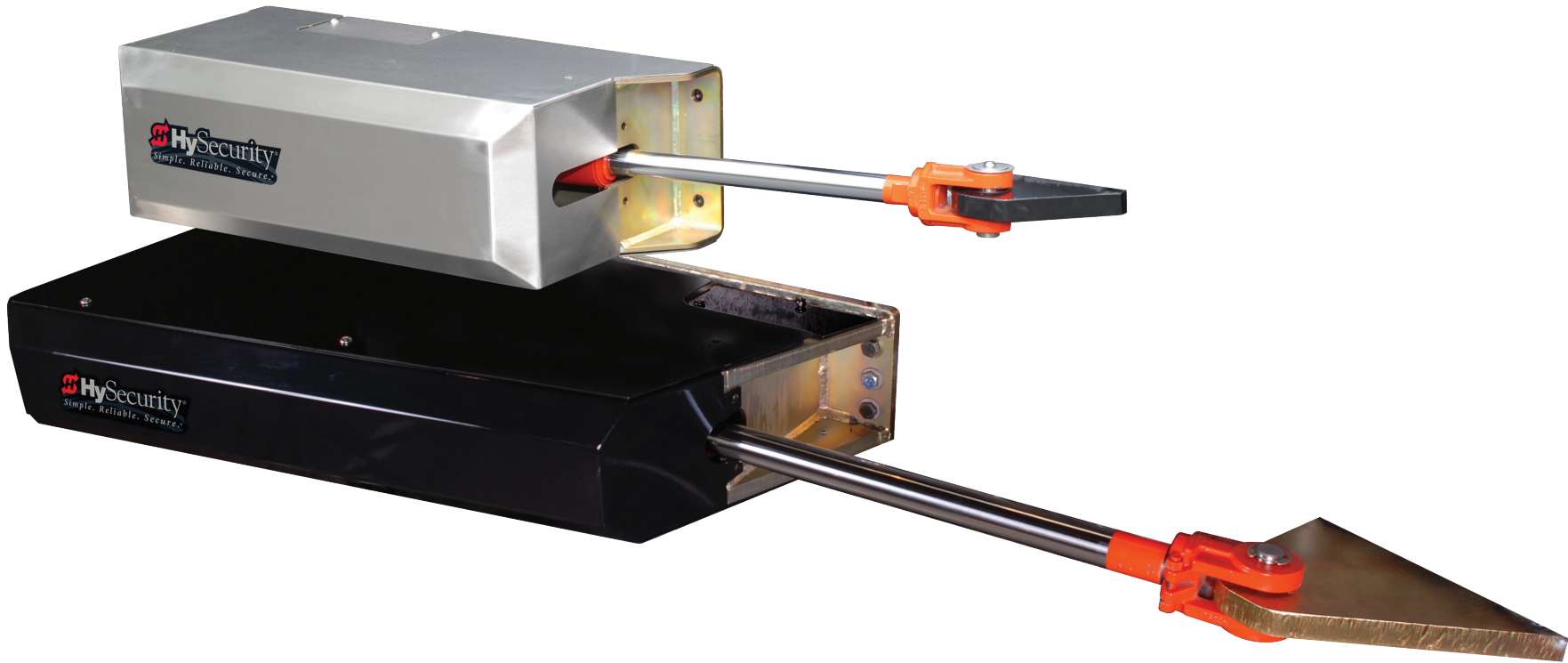


Close the Gate using the Hand Pump

1. Check that the knurled knob is in the closed position. Begin pumping the handle up and down. The gate slowly closes with the pumping motion.
2. The gate will maintain its position whenever you stop pumping.
3. Continue pumping until the gate reaches the full closed position.



Drawings NOT to Scale



Technical Specifications

Model	HydraSwing 40 (HSW40)	HydraSwing 40 Twin (HSW40T)	HydraSwing 40F (HSW40F)	HydraSwing 40F Twin (HSW40FT)	HydraSwing 80F (HSW80F)	HydraSwing 150 (HSW150)
Single or Twin	Single leaf	Twin (2 leaves)	Single leaf	Twin (2 leaves)	Single leaf	
Duty Cycle	Continuous					
Drive	VFD controlled Hydraulics					
Open/Close Time	15-20 seconds, field adjustable**		10-15 seconds, field adjustable**		15-25 seconds, field adjustable**	20-30 seconds, field adjustable**
Gate Length Max.	up to 24 ft (7.3 m)*	up to 16 ft (5 m) wide each leaf*	up to 16 ft (5 m) wide*	up to 16 ft (5 m) wide each leaf*	up to 30 ft (9 m) wide*	up to 40 ft (12 m) wide*
Gate Weight Max.	4,000 lb (1,814 kg)*	4,000 lb (1,814 kg) / leaf*	4,000 lb (1,814 kg)*	4,000 lb (1,814 kg) / leaf*	8,000 lb (3,629 kg)*	15,000 lb (6,804 kg)*
UPS Battery Backup Cycles	Optional 230V AC Power Supply w/HyInverter AC™***					
Temperature Rating	-40° to 158° F (-40° to 70° C)					
Single Phase Voltages	208/230V 50/60Hz					
Three Phase Voltages	208/230V 50/60Hz or 380/460V 50/60Hz					
Communication	BlueBUS, USB, Ethernet, RS-485, Bluetooth, OXI receiver					
User Controls	SmartTouch 725 Controller with 70+ configurable settings. 32 character OLED display and 7 tactile buttons, or Bluetooth smartphone interface, for programming. SmartTouch 720 Available without Bluetooth or Ethernet.					
Relays	Three configurable user relays: Two 30VDC 2A solid state, one 240VAC, 20A electromechanical. Optional I/O Expansion module for 8 additional relay outputs					
Enclosure	Type 3R, 30w x 42h x 12d inch (76w x 107h x 30.5d cm)					
Finish	Zinc plated steel chassis with stainless steel cover				3/4 inch zinc plated steel chassis with black powder coated steel cover	
ETL Listed (UL 325)	Usage Class I, II, III, IV				Usage Class III, IV	
Warranty	5 year w/product registration					

* Gate length/weight specifications are dependent on height, percentage of open area on panel and anticipated wind speed.

** Actual open/close time dependent on gate weight/length, percentage of open area on panel and anticipated wind speed.



Contact Information: Visit <https://support.hysecurity.com/hc/en-us> for installation manuals, replacement part instructions, part diagrams and more. Qualified Nice | HySecurity distributors are experienced and trained to assist in resolving installation problems. For the name of a qualified distributor near you, call Nice | HySecurity at 800-321-9947. *Before contacting your distributor or Nice | HySecurity Technical Support, obtain the serial number of your operator.



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