Gate Installation
Floor Level Bi-Swing with Sliding Latch

MATERIAL HANDLING SOLUTIONS

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6720 N. Teutonia Ave.
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Before You Begin

Read this entire manual.

Before starting the installation, verify the job site dimensions and the dimensions of the delivered materials against the PFlow Industries, Inc. General Arrangement (GA) drawing. Review and verify the enclosure positions and attachment fit-up to the gate post enclosure angle. If the site conditions do not match the GA drawing, please consult the PFlow Industries, Inc. Customer Support Department.

⚠ DANGER

Falling gate hazard! The installation of this equipment requires a qualified installer with extensive knowledge and experience on how to rig and erect structural steel. Make sure to properly support, tie off, or temporarily brace the gate posts, gate panels, and gate assembly during installation. Do not depend on the gate post feet to support the gate posts while the gate is being positioned or assembled. Final bracing of the gate assembly must be to the Vertical Reciprocating Conveyor (VRC) or building structure. The use of structural angle is recommended.

Falling Hazard! The gate panel safety latch may not be operational while the gate is being installed. If you must leave a gate or gate panel unattended, put up barriers and signs warning personnel to stay clear.

⚠ CAUTION

Lifting hazard! Components and accessories are heavy. To prevent serious personal injury, use the appropriate lifting apparatus, tie offs, or help when moving, lifting or assembling the components or accessories.

NOTICE

A qualified person is defined as a person who, by possession of a recognized degree or certificate of professional standing, or by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve problems relating to the subject matter and work.

Identify Components

Gate components, posts, panels, and header assembly have color coded tags. Each gate tag is a different color.

Level	Tag Color	Part	Weight
1st (bottom)	Green	J#-0101	380 lbs (172 kg)
2nd	Yellow	J#-0102	380 lbs (172 kg)
3rd	Red	J#-0103	380 lbs (172 kg)
4th	Blue	J#-0104	380 lbs (172 kg)
5th	Cream	J#-0105	380 lbs (172 kg)

The preferred method of installing a gate is to pre-assemble the full gate assembly on the floor, secure the pieces, and then stand it up. If for some reason pre-assembly is not possible, use these instructions as a general guide for the assembling, positioning, and securing of the gates.

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Tools Required

GA Drawing	Four (4) 4' (1,22 m) Lifting Straps and Clevises
25' (7,62 m) Measuring Tape	Four (4) 6' (1,83 m) Lifting Straps and Clevises
Come-Along	Four (4) Lifting Strap Sleeve
Extension Cords	Sledge Hammer
Hammer	C-Clamps, Four (4) 6" (152mm) and Four (4) 8" (203mm)
Temporary Anchors	Pry Bar
Welding Curtain	Hot Works Permit
Fire Extinguisher	Welding Machine and Equipment
4' (1,22 m) Level	Welding and Grinding PPE
Torpedo Level	1/2" x 4" Long Wedge Style Anchors
1/2" Concrete Drill Bit	Hammer Drill
Open or Box-end Wrenches to 1-5/16"	Carpenter Square
Chalk Line	Pencil
Step Ladder	
Fork Lift: 2,000 lb. (907 kg) Lifting Capacity (Minimum)	
Two (2) Chain Falls: 2,000 lb. (907 kg) Capacity (Minimum)	

Number of People

Two (2) people are recommended for this portion of the installation.

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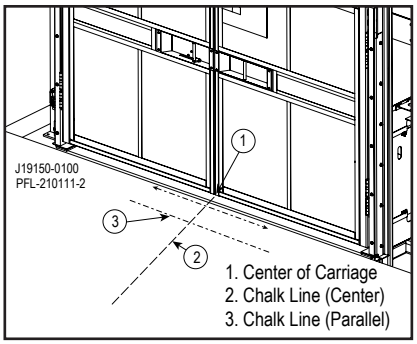
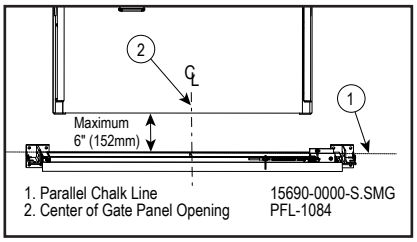
Establish Placement

1. Measure the outside edge to the outside edge of the carriage to locate the center line. Mark the center line with a pencil on the top of the carriage deck.
2. Position a carpenter square on the edge of the carriage to extend the center line onto the floor 10" (254mm) away from the carriage.
3. Mark a chalk line on the floor to ensure the center of the panel is on the center line of the carriage.
4. Refer to the GA drawing to determine the distance between the back side of the gate panel to the carriage. Snap a chalk line to identify the position of the gate panel parallel to the carriage. See Figure 3.
5. Locate and mark the center of the gate header with a pencil. See Figure 2.

NOTE *The ideal position of the gate panel is a maximum of 6" (152mm) from the inside of the gate panel to the front edge of the carriage. Local codes may have specific requirements concerning this distance.*



Establish Center and Parallel Line
Figure 1



Gate Alignment
Figure 2

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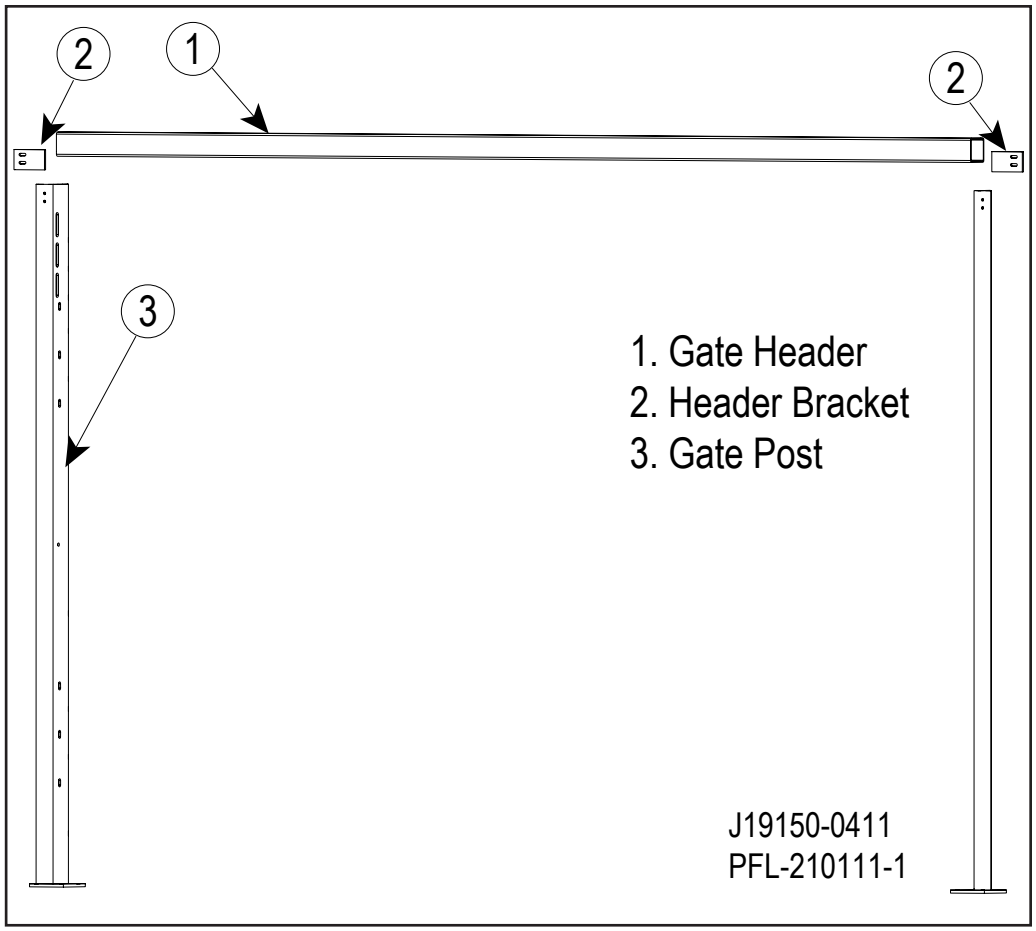
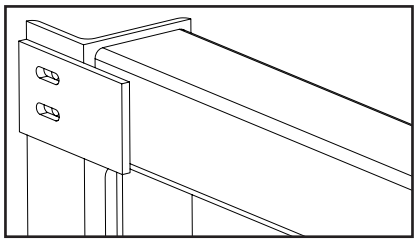
Assemble Gate Posts and Header



Bi-Swing Gate Post and Header Layout
Figure 3

1. Lay the gate posts (item 3) on the floor parallel to each other. See Figure 3.
2. Place the gate header (item 1) at the top of the gate posts and bolt the gate posts and header together with the header bracket provided (item 2). See Figure 3 and 4.
3. Square up the frame and posts.
4. Confirm that the spacing between the two posts are even from top to bottom.
5. Wrap straps around the gate posts from side to side to hold in place while the posts and header are lifted into place
6. Align the center of the gate header to the center of the carriage.
7. Temporarily brace the gate posts to the VRC to prevent falling.



Post and Header Attachment
Figure 4

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⚠DANGER

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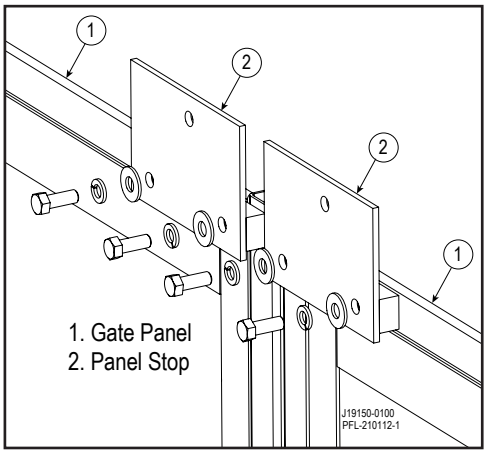
Attach Upper Stop Plates

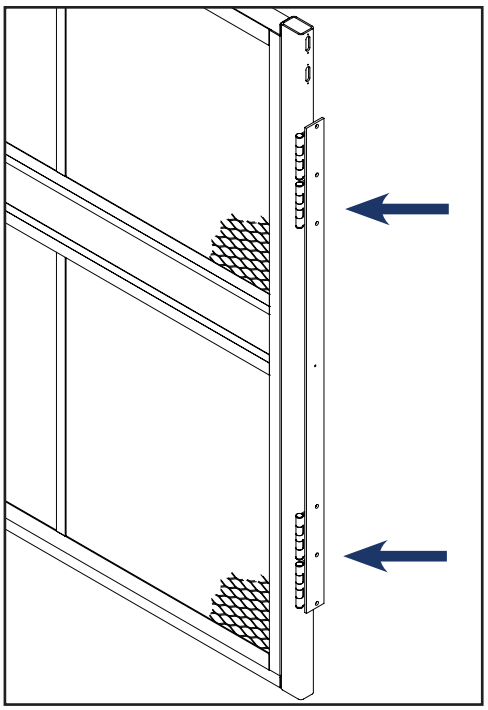
Attach the upper stop plate to the top of each panel with bolt, lock washer, and washer. See Figure 5.



Attach Door Stops
Figure 5

Attach the Bi-Swing Panels to the Gate Posts

1. Open the hinge bar on the gate panel door. See Figure 6.
2. Place the gate panel with the face forward and align the hinge bars with the gate posts.
3. Place a small wedge under the far end of the panel to support the panel.
4. Attach the hinge bars to the gate post at each hinge position. See Figure 6.
5. Make sure both panels swing close, meet in the middle, and that the sliding latch engages with the opposite door smoothly
6. Make sure the top of the panels are aligned evenly with each other.



Hinge Bar on Gate Panel
Figure 6

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Plumb and Square the Gate

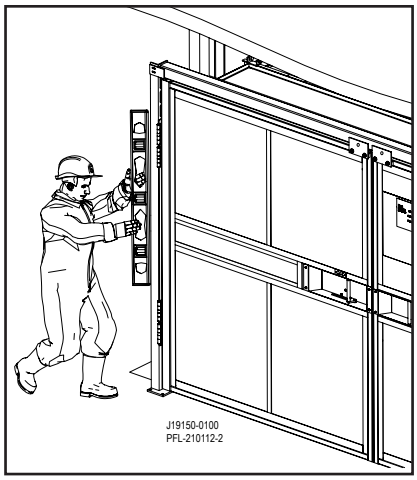
1. Make sure both gate support posts are plumb and square in both directions using a level that is 4' (1,22 m) or longer. See Figure 7.

Anchor the Gate Post Base Plates

2. Drill and anchor the gate post base plates to the floor with 1/2" anchors, 4" (102mm) long.

DANGER

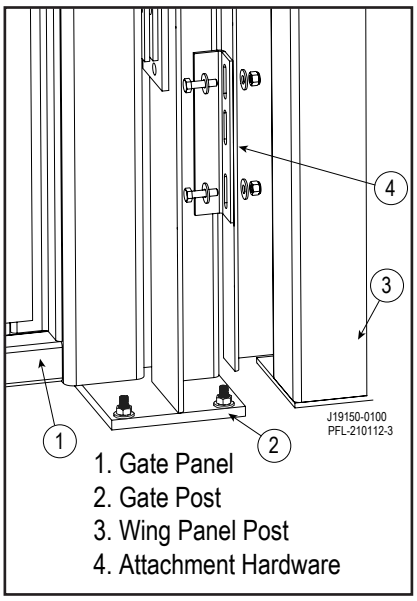
Falling gate hazard! The anchor hole depth should always be deeper than the length of the anchor bolt. The recommended wedge anchor size is 1/2" diameter by 4" (102mm) long.



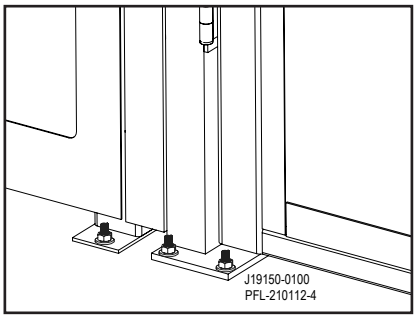
Plumb the Gate
Figure 7

Install and Anchor Wing Panels

1. Attach the side wing panels to the gate posts using bolts, washers, and nuts. See Figure 8.
2. Drill and anchor the wing panel post base plates to the floor with 1/2" anchors, 4" (102mm) long. See Figure 9.
3. Make sure both panels swing close, meet in the middle, and that the sliding latch engages with the opposite door smoothly.
4. Make sure the top of the panels are aligned evenly with each other.



Attach Wing Panels
Figure 8



Anchor Wing Panel Posts
Figure 9

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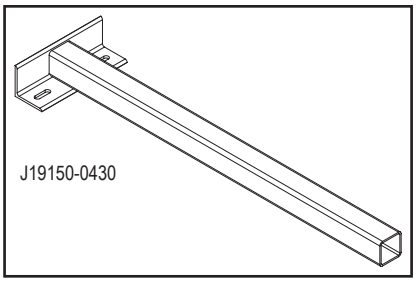
Install Support Braces

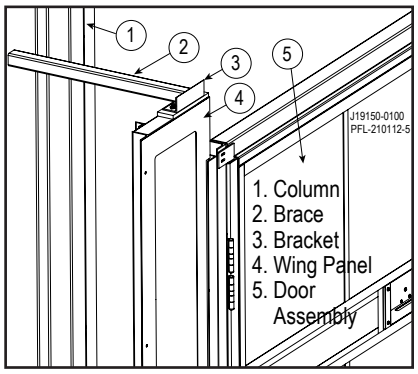
1. Locate wing panel brace J19150-0430 and bolt to top of wing panel. See Figure 10 and Figure 11.
2. Weld each wing panel brace to the VRC column. See Figure 11.
3. Verify each gate panel swing for proper operation and site operational clearance.
4. Verify that the sliding latch engages with the gate frame properly.
5. Confirm that the gate is plumb and square.



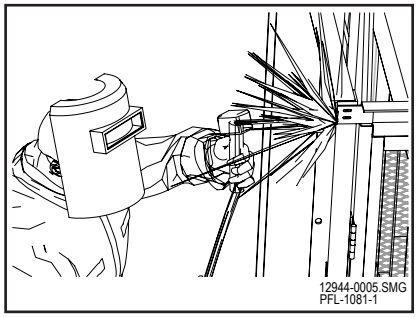
Wing Panel Brace
Figure 10

Weld the Gate Header to the Gate Post

Weld the gate header to the gate posts. See Figure 12.



Attach Wing Panel Braces
Figure 11



Weld Gate Header to Gate Posts
Figure 12

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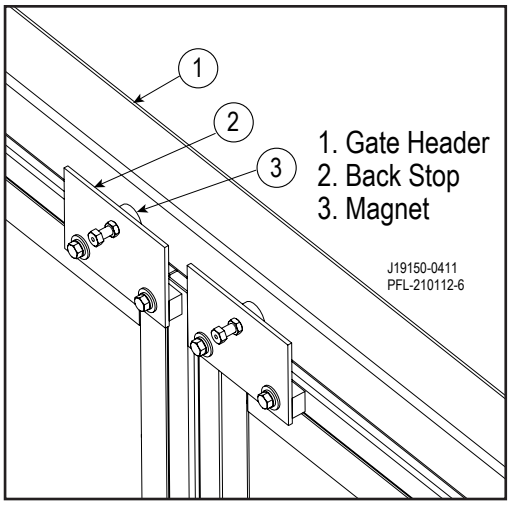
Attach Door Upper Stop Plate

1. Attach the magnet (item 3) to the back of the header stop (item 2) using the mounting hardware. See Figure 13.
2. With the VRC carriage on the same level as the gate, make sure that the magnet holds the panel closed until the operator pulls open the panel. The magnet will require field adjustment to fine tune the panel "held closed" feature.
3. Adjust the panel position by backing off the magnet locking nut.
4. Rotate the magnet hex head bolt to position the panel.
5. Secure the magnet position by tightening the magnet locking nut.



Attach Door Upper Stop Plate
Figure 13