Alimak FC 7100-12D

Model 650 FC 32/39 Dual Car Construction Hoist

Mast section
2'-4 5/8" sq x 4'-11 3/8"

Structure
12'-9 5/8"
13'-1 1/2"

Base enclosure
3'-11 1/4" (verify)

Door opening
4'-11"
6'-6 3/4"

Door opening
4'-11"

Hoist car
13'-1 1/2"

Cable guide
Cable trolley assembly (typ.)

Cable guide (typ.)
Cable trolley assembly (typ.)

Cable guide (typ.)
Mast tie (S3A)

Landing sill
required for wallmounted mast tie (S3A) by contractor

Landing (typ.)
Gate and threshold by contractor

Gate and threshold by contractor

Landing sill
required for wallmounted mast tie (S3A) by contractor
IMPORTANT: Verify that the use of a slab foundation conforms to all applicable federal, state and local standards and codes PRIOR to foundation installation.

Foundation Details

Plan View
Dual base enclosure

Elevation (Concrete footing)

Mast Base
Section A-A

GENERAL NOTES

1. Foundation: 15’-3” x 14’-10 3/8” x 1’-2” with 3,625 psi concrete at 28 days.
2. Rebar: #5 ASTM A615–60 12” o.c. each way, top and bottom. (See manual.)
3. Foundation based on 490-foot mast height. For greater heights, contact Morrow engineering department.
4. Foundation designed for minimum soil bearing of 1,000 psf.
6. Refer to the manufacturer’s manual before installing, operating, servicing, repairing, jumping or dismantling hoist.
7. For specific information including dimensions, forces or alternative configurations, contact Morrow engineering.
8. 3/4” x 17” Williams™ High Tensile Spin-Lock Anchor Bolt and nut assembly. (R1S06C14 Head assembly with ASTM A109/C1045 bolt and nut or approved equivalent. Bolt by contractor. Install according to bolt manufacturer’s requirements. Drill holes 1 3/4-in diameter allowing for 11” embedment. Bolt is also available through Morrow upon request. R1S-type anchor bolts not intended for use at extreme cold temperatures.
9. 1/2” x 3” x 3” sq. washer ASTM A36 steel plate by contractor. Washer also available from Morrow upon request. Drill hole = 13/16” dia. at centerline.
10. This datasheet contains information for “typical” FC 7100-12D installation, i.e., configured for car on lefthand side of mast (when viewing hoist from side opposite structure). Contact Morrow for additional information.
**Foundation Details**

- **Mast section to base frame connection bolt (4)**
- **Mast anchor expansion bolt (4) by contractor** [See General Note 8]
- **Steel plate washer** [See General Note 9]
- **Buffer spring assembly (2)** [1 ea. car]
- **Reinforced concrete foundation** [See General Notes 1, 2, 3, 4 and 5]
- **Rebar mats (2)** [See General Note 2]
- **Holes drilled in slab for mast anchor expansion bolts (4)** [See General Note 8]

**Note:** Distance from building face to center of mast depends on the type of mast tie installed. Alternate anchoring methods available. Refer to Manual or contact Morrow Equipment for information.

**Note:** Hoist cars are equipped with doors at each end. An optional side door with a 10'-6" x 6'-7" opening is available.
**Tie Details** (S3A System) • slab mounted

**Mast Tie Connection**
Slab mounted – Side view
Bottom attachment type

**Slab Bracket**
Typical – Isometric views

**Mast Tie Assembly**
Plan view

**Note:** Mast tie assemblies may be installed between ±8° from the horizontal.

**Important:** An additional 3" in mast tie length is added when using a wall-mounted tie connection.

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**IMPORTANT:** ANSI A10.4 11.3 specifies a 1/2" [min.] to 2 1/2" [max.] clearance between car platform sill and landing sill. Verify before installing to assure compliance with applicable standards, codes and regulations.
**Tie Details** (S3A System) • wall mounted

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**Mast Tie Connection**
Face mounted – Side view
Wall attachment type

- **Wall Bracket**
  Typical – Isometric views

- **Important:** ANSI A10.4 11.3 specifies a 1/2" (min.) to 2 1/2" (max.) clearance between car platform sill and landing sill. Verify before installing to assure compliance with applicable standards, codes and regulations.

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**Plan View**

**Mast Tie Assembly**
Plan view

- **Note:** Mast tie assemblies may be installed between ±8° from the horizontal.

**Important:** A reduction of 3" in mast tie length is made when using a slab-mounted tie connection.
Tie-in Details

Car with optional side door installed
10'-6" x 6'-7" opening

Landing (typ.)
Gate and threshold by contractor

Power cable guide *
Trolley rail *

NOTE: Maximum overhang varies. Consult hoist manual or Morrow for information.
Above uppermost mast tie (overhang)

5'-7"

Power cable guide *

14'-10 1/8" max. above top landing or mast tie

Mast tie spacing: 19'-8" min. - 30'-0" max.**
Mast tie inclination: 0° to 8°

Mast tie length (L) are from 7'-5 1/4" minimum to 8'-1 1/8" maximum when angle of inclination is 0° (horizontal).
Mast tie inclination 0° to ±8°. Tie length adjustments are in 2" (50mm) increments.

Attachment Type A: Mast tie with tie-in bracket mounted on top of reinforced slab.

Attachment Type B: Mast tie with tie-in bracket attached to bottom of reinforced slab.

Attachment Type C: Mast tie with tie-in bracket mounted on face of reinforced structure.

NOTE: Maximum overhang varies. Consult hoist manual or Morrow for information.

Maximum mast tie spacing is based on ANSI A10.4.

NOTE: Engineer of record to verify that slab/wall is adequate for anchor forces.

Mast Tie
Attachment points/types

Mast Tie Inclination details

Other configurations are possible.
Federal, state and local standards or codes may apply.

Hoist configuration shown is an example of an installation with optional side door.

Federal, state and local standards or codes may apply.
**Tie Details** (S3A System) • components

**Mast section**
- 2'-4 5/8" x 2'-4 5/8" x 4'-11 3/8"
- Weight: 298 lbs (dual racks)
- Connecting material: 1" UNC galvanized, of ISO 8.8 quality or higher (ASTM A325)
- Torque: 220 ft-lbs (300 Nm)

**Rack**
- for dual car configuration: two racks are required

**Mast bracket**
- mast section to mast tie connection component

**Mast bracket mounted to mast section at mast frames (three possible locations per mast section)**

**Inner mast tie braces (2)**

**Intermediate mast tie brace (1)**

**Outer mast tie (2)**
- adjustable in 2" (50mm) increments

**Cross brace screw adjustable**

**Circlip for pin**

**Circlip with pin**

**Tie bracket connection pin (3)**

**S3A System Mast Tie Assembly**
- Exploded view
GENERAL
Max. load capacity ...................... 7,100 lbs per car
Number of passengers ................ 29 per car
Car inside dimensions [approx.] .... 12'-9" x 4'-11" x 7'-6 1/2"
Door opening .................. 6'-6 3/4" x 4'-10 3/4"
Mast section length .................. 4'-11 3/8"
Speed .................. Up to 175 fpm
Motors (VFD) [per car] ........... 3 x 14.7 hp
Power requirement 1 .............. 480 Volt - 3 phase - 60 Hz

Max. height on standard masts ...................... 660'
Max. freestanding mast height 2 .................. 30'-0"
Maximum mast overhang 3 .................. 30'-0"
Maximum mast tie spacing 3 .................. 30'-0"
Power supply fuses [per car] .................. 100 Amps
Starting current [per car] .................. 91 Amps
Power consumption [per car] .................. 66 kVA

WEIGHTS
Base enclosure (without car) .............. 2,358 lbs [per car]
Base enclosure (with car) .............. 7,605 lbs [per car]
Motorpack (3 x 14.7 hp) .............. 1,965 lbs [per car]
Hoist car (without motorpack) .............. 3,282 lbs ea.
Mast section (double rack) .............. 298 lbs ea.

SAFETY FEATURES
• Electronic and mechanical door interlocks on hoist car and base enclosure doors.
• Automatic stop and final limit switches limit hoist car travel when reaching end positions.
• Main "ON/OFF" switch lockable to prevent unauthorized operation.
• Spring buffers.
• NO counterweights required.

KEY FEATURES
• Equipped with highly efficient variable frequency drives for smooth, economical and dependable operation.
• Mast sections can be added without special equipment.
• Modular design facilitates ease of transport, erection and dismantlement.
• Recessed stainless steel control panel.
• Internal fault diagnosis system.

IMPORTANT: Refer to manufacturer’s manual before installing, operating, servicing, repairing, jumping or dismantling hoist. This datasheet contains general information for a “typical” FC 7100-12D (650 FC 32/39 II) dual car installation. For dimensions, reaction forces, mast tie locations, alternate configurations and special applications, contact Morrow Equipment.

Specifications and equipment shown are subject to modification without prior notification.

This product and its components must be used in a safe manner, in conformity with manufacturer’s specifications and in compliance with all applicable standards, codes, regulations, etc.