**Foundation Details**

- **Plan View**
  - Dual base enclosure

- **Elevation**
  - Concrete footing

**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 6800-12D HS installation. Contact Morrow for additional information.

**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**

**Foundation View**

*Typical Dual Car Installation*

**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.

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- Hydraulic buffer assembly (2) (1 ea. car)
- Base frame
- Structure side
- Hydraulic buffer assembly (2) (1 ea. car)
- Steel plate washer
  - See General Note 9
- Mast anchor high tensile spin lock bolt (4) by contractor
  - See General Note 8
- See “Plan View/Concrete footing” for spacing
- Mast section to base frame connection bolt (4)
- Mast section
- Holes drilled in slab for mast anchor high tensile spin lock bolts (4)
  - See General Note 8
- Reinforced concrete foundation
  - See General Notes 1, 2, 3, 4 and 5
- Rebar mats (2)
  - See General Note 2
- Mast section to base frame connection bolt (4)
- Mast anchor high tensile spin lock bolt (4) by contractor
  - See General Note 8
- See “Plan View/Concrete footing” for spacing
- Steel plate washer
  - See General Note 9
- Mast section
**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.

**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.
**Mast Tie Connection**

**Face mounted – Side view**

Wall attachment type

**Wall Bracket**

Typical – Isometric views

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

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**Mast Tie Assembly**

Plan view

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

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**Plan View**

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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-in Details

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

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

NOTE: Mast tie spacing varies based on job site specific criteria. Consult hoist manual or Morrow for information.

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

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

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

** IMPORTANT: Power cable guides and rails to be installed up to one-half lifting height PLUS 10 feet.

Mast Tie
Attachment points/types

NOTE: When wall bracket is mounted to face of structure, an additional 3" (75mm) is added to the distance from the centerline of mast to the point of bracket attachment to structure.

Mast Tie
Inclination details

Mast tie lengths 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°. Angles greater than 8° will cause interference with tie-in and car. Tie length adjustments are in 2" (50mm) increments. An additional 3" is gained in length (L) for wall mounting.
**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.

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**S3A System Mast Tie Assembly**
Exploded view

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

**Circlip**
For pin

**Pin**

**Intermediate mast tie brace (1)**

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

**Cross brace screw adjustable**

**Tie bracket connection pin (3)**

**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)
**GENERAL**

Max. load capacity ...................... 6,835 lbs 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 ........................................ 0 - 328 fpm
Motors (VFD) (per car) ................. 3 x 30 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"
Minimum mast tie spacing ............... 24'-7"
Power supply fuses (per car) .......... 200 Amps
Starting current (per car) ............. 185 Amps
Power consumption (per car) .......... 115 kVA

1 480 V phase–phase, 277 V each phase to ground with 120° phase shift between phases. 3 phase, 60 Hz power supply plus ground wire. Do not use Open-Delta supply.
2 Requires use of an embedded foundation frame in lieu of mast anchor expansion bolts. See operation manual or contact Morrow engineering for specific information.
3 Overhang and mast tie spacing figures vary. See operation manual or contact Morrow engineering for specific information.

**WEIGHTS**

Base enclosure (without car or motor)... 2,690 lbs (per car)
Base enclosure (with car & motor) ...... 9,700 lbs (per car)
Motorpack (3 x 30 hp) .................... 2,650 lbs (per car)

Hoist car (without motorpack) .......... 4,360 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.
- Hydraulic buffers.
- NO counterweights required.

**KEY FEATURES**

- Hi-speed capability provides increased productivity delivering personnel and material more quickly.
- 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.
- ALC-II collective control system internal fault diagnostics system.
- A3 remote diagnostics system offers advantage of continuous and prompt service support.

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1 IMPORTANT: Refer to manufacturer’s manual before installing, operating, servicing, repairing, jumping or dismantling hoist. This datasheet contains general information for a “typical” FC 6800-12D HS [650 FC-S 31/39 II] Hi-Speed 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.