

M4K-CF

Counterbalance Fork 4,000 lbs Pallet Capacity

Introducing the M4K-CF – a counterbalance fork AGV built on Daifuku's robust AGV technology, yet capable of manual operation when necessary for production needs.

With a capacity of 4,000 pound (1814 kg), the M4K-CF is ready to move heavy pallets.

FEATURES

Safe: The M4K-CF includes 4 laser scanners to detect obstructions and personnel.

Efficient: The M4K-CF is battery powered and charges automatically, yielding up to 24/7 fully automatic operation.

Connected: With Daifuku's System Automation Manager™ (SAM) software providing traffic control and fleet coordination, AGV operations may be integrated with Plant Control Systems.

Simple: Daifuku's proven CartTools™ and AGV Tools software products provide a user-friendly interface, allowing customers to modify and expand their system.



NAVIGATION OPTIONS

Natural Feature Navigation (NFN): Environmental feature data is collected by on-vehicle sensors and used by the vehicle computer to determine location.

Laser Navigation: Field of reflective targets seen by on-vehicle sensors and used by vehicle computer to determine location.

Inertial Navigation: Odometry data and in-floor waypoints are used by the vehicle computer to determine location.

NAVIGATION ENHANCEMENTS

Enhanced Navigation: Additional sensors can be added to augment the vehicle's navigation technology.

Co-Navigation Technology: Multiple navigation packages may be used on a vehicle in challenging environments.

FEATURES AND OPTIONS

- Automatic Charging, 300 amps
- Wi-fi Communications 802.11 a/b/g/n/ac
- Front & Rear Video Camera
- Warning Light/Horn
- Blue Warning Light
- Automatic Shut Off
- Sleep/Auto-wake
- Music Generator

General Specifications

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|----------------------------------|--|
| Safety Standard | ANSI B56.5-2019 |
| Weight without battery | 9,700 lbs (4400 kg) |
| Dimensions (less forks) | W: 57" (1447 mm) L: 76" (1930 mm) H: 87" (2209 mm) |
| Capacity | 4000 lbs (1814 kg) at 24" (609 mm) load center, maximum |
| Lift Range | Floor to 72" (1828 mm) |
| Scanner Front – 2D Laser | Safety rated – ANSI B56.5 compliant |
| Scanner Rear/Side – 2D Laser X 2 | Safety rated – ANSI B56.5 compliant |
| Scanner Front 3D Laser | Object Detection |
| Pedestrian Awareness | Blue Warning Light, Front & Rear Stack light and horn, per ANSI B56.5 |
| Speed - 6 speeds | 15 (4.5 mpm) to 360 fpm (109 mpm), 1 fpm (.025 mpm) increments |
| Battery/Charge Options | 36VDC, 2600 lbs (1182 kg) |
| 840 AH, TPPL/AGM | 300-amp charge rate |
| 700-900 AH, LiON | 300-amp charge rate |
| Manual Charge | Up to 300 amp |

Environment

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|----------------------------|---|
| Atmosphere | 0 to 104° F (40° C), 25% to 95% non-condensing humidity |
| Dust/Water-proof | No |
| Floor Specs – Edges/Debris | ¼" (6.35 mm) abrupt elevation change maximum, smoothed |
| Expansion Joints | ¼" (6.35 mm) minimum |
| Grade Rating | 3% |
| Friction | 0.6 coefficient of friction between wheels and floor, minimum |
| Floor Conductivity | Static dissipative, less than 3.5 x 10 ⁷ Ω |
| Radio Communications | IEEE 802.11a/b/g/n/ac standard |

Detailed Specifications

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|------------------------------|--|
| Drive Direction – Automatic | Forward and Reverse |
| Drive Unit – Wheels | 16" (406 mm) diameter x 7" (178 mm) wide, Solid Rubber |
| Motor | 4.0 kw AC induction x 2 |
| Brake | Spring actuated (fail-safe) |
| Steering – Wheels | 10" (254 mm) diameter x 5" (127 mm) wide, Poly |
| Motor | 0.7 kw AC induction |
| Brake | Spring actuated (fail-safe) |
| Navigation | Laser – Natural Feature Navigation – Inertial |
| Steer Angle Sensor Encoder | Yes |
| Steering/Stopping Accuracy | +/- ½" (12.7 mm) |
| HMI Display | 5.7" (145 mm) color touch screen – errors & destinations |
| Video Camera | Front/rear, 1080P, supports up to 128GB microSD card |
| Manual Movement | Joystick – Operator-aboard |
| Minimum Path Radius | 5' (1524 mm) @ 100 FPM (30 mpm) + Pivot turn capable |
| Drive Stalled Detection | Yes |
| Distance Initiated Functions | Yes – in 1" (25.4 mm) increments |
| Program Method | PC and Wireless |
| Obstacle Detection | 360°, programmable up to 9' (2.8 meters) |
| Emergency Stop | 2 – Left/Right side |
| Wiring | Per NEC ampacity guidelines |

CARTTOOLS SOFTWARE

Simple, standardized toolbox of commands that make configuration a snap.

