Carmatrix

Multi-Level
Semi-Automated
Parking System
Soaring land prices and an appetite for more and more parking has changed the way the American real estate industry is viewing parking. Harding Steel has developed the Carmatrix puzzle system, a semi-automated mechanical parking system that is designed with the American consumer and American real estate developer in mind. These systems can be individually configured for each building, project, and parking requirement. The primary purpose of the Carmatrix is to provide high-density parking where users have the ability to park their OWN cars. Carmatrix virtually eliminates the need for attended or valet parking operators.

- All electric system ... no hydraulics
- Chain driven lifting and sliding mechanisms (no cables)
- Comprehensive safety features
- Manufactured in ISO 9000 certified facilities
- Self-parking capable
- Key pad control system
- Automatic operation returns each car to grade level for rapid retrieval
- 220 3-phase 60 Hz electric motors

Because no two buildings are alike, Harding Steel is able to create a Carmatrix solution specifically for each building. These systems are constructed of premium steel with 100% galvanized steel platforms for durability and a clean appearance.

Carmatrix operates on a platform-based grid system. The grade level platforms move laterally while the upper and lower platforms move vertically to allow the needed vehicle to be accessed at grade level. For each grouping of platforms there will always be a vacant space at grade for the upper and lower vehicles to be accessed.
Carmatrix
2 LEVELS X NUMBER OFSTALLS

TYPICAL = 12’ 6” to 14’
COMPACT = 12’
LARGE = 14’

TYPICAL = 78”
COMPACT = 78”
LARGE = 84”

2 LEVEL CARMATRIX

TYPICAL = 17’ 6”
COMPACT = 17’
LARGE = 18’

TYPICAL = 18’ 6”
COMPACT = 16’
LARGE = 19’

RECESSED FLOOR DETAIL
DEPTH = 4”
LENGTH (FRONT TO BACK) = 177”
WIDTH = SAME AS OVERALL MACHINE WIDTH

FIG. 1
2 LEVEL CARMATRIX SYSTEM DOUBLE STACK

OPTIONAL SAFETY GATE

98" or 102" x NUMBER OF STALLS + 12"

FIG. 2  CARMATRIX
CARMATRIX SYSTEM WITH A PIT—TRIPLE STACK

TYPICAL = 18' 3''
COMPACT = 18'
LARGE = 18' 6''

TYPICAL = 7' 9''
COMPACT = 7'
LARGE = 7' 6''

6' NEEDED FOR GATE CLEARANCE IN FRONT OF LIFT SYSTEM

6' BEHIND GATE

CLEAR FOR MEP, SPRINKLER

FIG. 3
3 LEVEL CARMATRIX

TYPICAL = 14'
COMPACT = 12' 6''
LARGE = 14'

TYPICAL = 7' 6''
COMPACT = 7' 2''
LARGE = 8'
FIG. 4  3 LEVEL CARMATRIX SYSTEM WITH A PIT—TRIPLE STACK

98" x QUANTITY OF SPACES + 12"

102" x QUANTITY OF SPACES + 12"

CLEAR SPACE BETWEEN CARS 6" x 12"
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FIG. 6 3 LEVEL CARMATRIX

BUILDING STRUCTURAL COLUMNS AND WIDTHS MAY VARY. CONSULT HARDING STEEL FOR DESIGN SPECIFICS.

98' or 102' x NUMBER OF SPACES + 12' AND ANY COLUMN SPACING
FIG. 7  DIRECTION OF TRAVEL
FEATURES
- 100% premium steel construction
- Commercial grade design and materials
- Electric drive motors with heavy-duty chain operation (no cables)
- Suitable for indoor or outdoor installation
- 100% galvanized steel diamond-plate platforms standard
- Support vehicles weighing up to 5,000 pounds
- Electro-mechanical steel locking system for safety
- UL Approved components
- ETL Inspected controls
- Seismic and anchorages calculated for specific project and location
- Custom design for each project
- Additional options available

WARRANTY
One year electrical, two year mechanical, five year structural

SAFETY
- At-grade platforms are free of trip hazards and gaps
- Central panel controls all platforms in each section
- Can be configured for self-park (unattended) parking
- Laser sensing emergency stop for all machine movement
- Wiring block for integrating safety interlock devices
- Systems are fully configured with sensors and interlock switches
- Systems are supplied with safety gates gated for safe operation.