Universal-use, Attachment-configured, Chassis

Floor Lift, Low Transfer or Towing Conveyance

Up to 10,000 Pounds Capacity

Virtual Path™ 'Tape-Free/Target-Free' Navigation

Savant Automation's DFL series AGV uses a universal-use, base chassis design for all applications. Because it is modular, it can be provided with various rear load attachments to adapt to load pick/drop & transport needs.

Load or Cart Lift Configuration: The DFL can be configured as a floor lift AGV designed to pick and drop loads at floor or stand level. This is ideal for accessing and transporting pallets, racks, tubs, skids, reels, carts, etc. without the need for floor mounted load support structures.

Versatile Application: The DFL is ideal for demanding material transportation applications, including use in manufacturing, distribution, hospitals, etc. It can be configured with simple lift mechanisms, forks, special load arms, tow hitch and roller deck attachments.
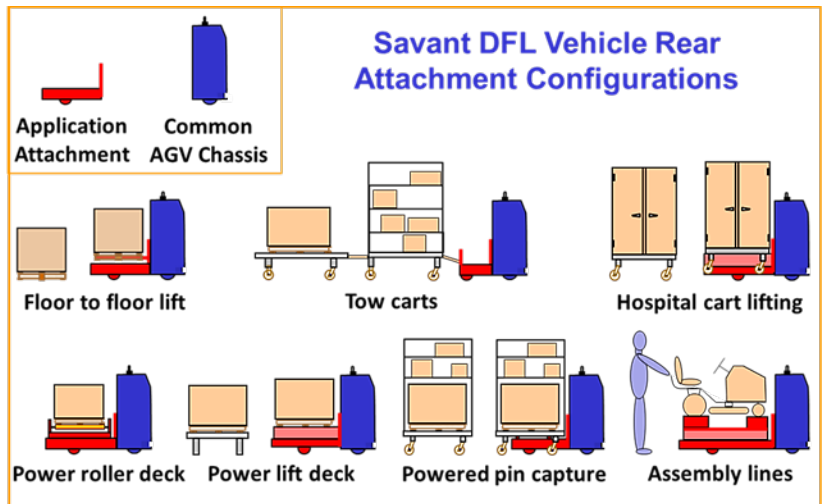
The vehicle is ideal for transporting loads at floor or stand levels between work cells, from order/cart picking areas to shipping, from receiving to storage, from buffers to line feed locations, as well as use in assembly line applications. This highly maneuverable AGV can safely travel in high traffic and in tight, space-restricted areas.

Savant Virtual Path™: The DFL utilizes a highly reliable and accurate, navigation system employing a solid state inertial sensor chip to compare AGV heading and positional data to a virtual route CAD map in the vehicle's memory. It is ideal for all environments, especially where damage vulnerable magnetic/optic floor tape, floor cut slots or line-of-sight dependent laser reflective wall targets, or wall-reliant lidar natural/contour technologies are not practical or desirable.

Existing or New Facility Use: A Savant 'Virtual Path' AGV system requires minimal installation time. Systems can be easily installed/quickly changed in existing facilities and safely operate in people corridors.

System Control: The AGV control system can operate in standalone mode or be integrated with a user's PLC/IT/ production control system networks. AGV call & dispatch can be provided via load sensors, local call devices or cart RFID tags. The Savant system controls support interface with elevators, robots, conveyors, doors, etc.

IQ-CAN™: (**i**ntelligent **Q**uick **C**onfigurable **A**utomatio**N**™)**:** The DFL-40 is available with Savant's visual-based control system. iQ-CAN utilizes a standard graphical PC program to configure AGV system path/operation without software coding, provides system design simulation and visual confirmation of operation <u>before</u> installation or change.

Savant DFL Vehicle Rear Attachment Configurations

Application Attachment   Common AGV Chassis

Floor to floor lift   Tow carts   Hospital cart lifting

Power roller deck   Power lift deck   Powered pin capture   Assembly lines

Standard Features:

- **Fully automated operation**
- **Onboard or remote dispatching**
- **Auto-return to battery charge area when battery is low**
- **Diagnostic mode for fast, easy troubleshooting**
- **Easy access to user controls**
- **Remove/Enter anywhere along path without resetting system controls**
- **Pendant for manual operation**
- **Steel frame construction**

Options:

- **Automatic cart elevation**
- **Elevator interface**
- **Automatic reversing**
- **iQ-CAN™ system controls**
- **Remote system management and vehicle dispatching**
- **Automatic charging**
- **Turn signals**
- **Custom load handling configurations**
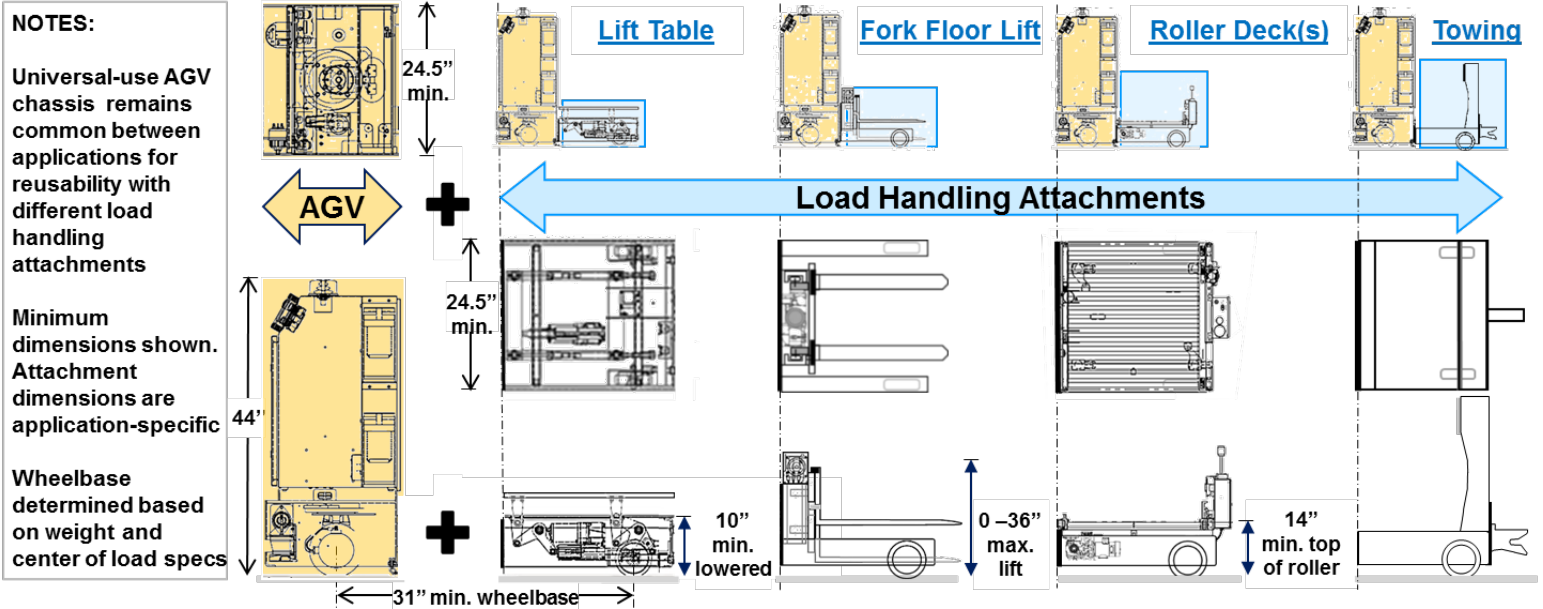- **Voice annunciation**

Warning and Safety Devices:

- **Programmable safety laser scanner**
- **Emergency stop buttons**
- **Audio beeper while in motion**
- **Flashing warning lights while in motion**
- **Location-selectable speed, horn & light settings**

Display/Control Panel:

- **Industrial grade tablet or 40 characters by 2 line display**
- **Status (on path, low battery, error messages etc.) and prompts for operator actions**
- **Easy to customize (route assignments, etc.)**

NOTES:

Universal-use AGV chassis remains common between applications for reusability with different load handling attachments

Minimum dimensions shown. Attachment dimensions are application-specific

Wheelbase determined based on weight and center of load specs

Lift Table   **Fork Floor Lift**   **Roller Deck(s)**   **Towing**

AGV + **Load Handling Attachments**

24.5" min.

44'

31" min. wheelbase

24.5" min.

10" min. lowered   0 –36" max. lift   14" min. top of roller

Mechanical Specifications

Capacity (gross)	Lift/Carry 4,000 lbs. @ 24" load center Tow 10,000 lbs. @2% rolling resistance
Ramp Capacity	Up to 6% with reduced capacity
Load Type	Application-specific Attachments: Low Platform Lift, Fork, Custom Powered Decks/Load Arms, or Towing
Drive	Single wheel steer/drive
Steering	Steered-wheel with fixed load wheels
Drive Motor	2.5 kw AC motor
Drive Wheel	10.6" (270mm) diameter x 3.55" (90mm) wide Vulcolan
Caster Wheels	8" (203mm) diameter x 2" (50mm) wide
Frame	Unitized structural steel
Brake	Electric, fail-safe
Approx. Weight	800 lbs. plus attachment weight
Automatic Speed	200 fpm max. (61 mpm);15 speed ranges, programmable area speeds
Turning Radius	3' minimum (approximates pivot about inside rear wheel)

Controls Specifications

Controls	Microprocessor, CAN bus
Electrical System	24-volt power
Navigation System	"Virtual" wireless navigation (inertial - 'tape/target-free')
Communications	WiFi, 900 or 450MHz RF bands
Safety	Multi-range, selectable profile safety-rated laser sensor(s)
Nominal Positioning Accuracy	± 1" (25.4mm) longitudinal, ± 1" (25.4mm) latitudinal Tighter tolerances – optional
Battery System	Sealed, Maintenance-free, TPPL battery set with discharge sensor
Battery AH	Two (2) 12V, 332 AH amp-hour
Battery Cycle	8 hours minimum, based on standard duty cycle of 20% idle, 40% in motion full speed loaded, 40% in motion full speed empty
Charging Method	Automatic (Fast) charging or optional built-in charger
Manual Operation	Pendant control

NOTE: SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE BASED ON PRODUCT IMPROVEMENTS OR TECHNICAL REQUIREMENTS.   FORM: 1806DFL