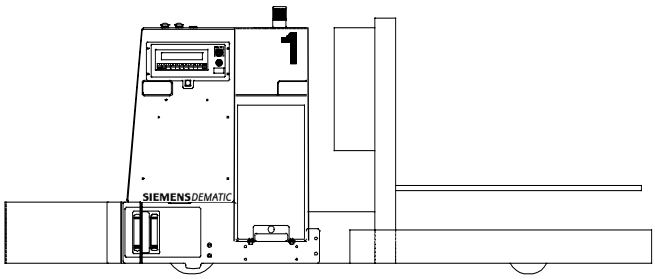
SIEMENS*DEMATIC*

Model 8695
DF-20 Automatic Guided Fork Vehicle

Materials Handling Products

- **2,000 Pounds Lift Capacity**
- **Wireless or Wire guidance**
- **RF Communication**
- **Automatic or Manual Operation**



Siemens Dematic's DF-20 Automatic Guided Fork Vehicle is a versatile unit load transporter. The new generation design incorporates the latest technologies and features that customers have indicated are important for automated material handling systems. The forklift attachment can be configured with various mechanisms to adapt to many applications.

The DF-20 can be applied in virtually any industry application. A DF-20 can be used for material movement between work cells, from palletizing to stretch wrapping, from packaging to shipping, from receiving to storage, and as a material transfer device at the front end of an automated storage system. It can transport racks, pallets, roll stock, crates, totes, and bulk hoppers or containers. This highly maneuverable AGV can safely travel in high traffic areas, in narrow causeways, and easily interface with automated systems requiring low or floor level transfer.

The DF-20 is available with the state of the art Siemens Dematic Virtual Path™ Guidance using an onboard gyroscope to determine AGV headings and positional information. The onboard computer controls navigation, communication, drive control and safety systems.

The DF-20 is also available with Siemens Dematic's revolutionary Q-CAN™ system controls. Q-CAN (Quick Configurable AutomatioN) utilizes a standard program that permits quick, easy system design, and allows users to make changes to their own AGV systems.

Standard Features

- Fully automated operation
- Automatic load/unload transfer
- Onboard routing and traffic control logic
- Automatic return to battery change area upon sensing low battery
- Onboard diagnostic mode for fast, easy troubleshooting
- Controls mounted to allow easy accessibility
- Remove/Enter on path anywhere without resetting system controls
- Pendant control for off-path manual operation
- Rugged steel frame construction for industrial environments
- 100% gear driven transmission (no belts)

Warning and Safety Devices

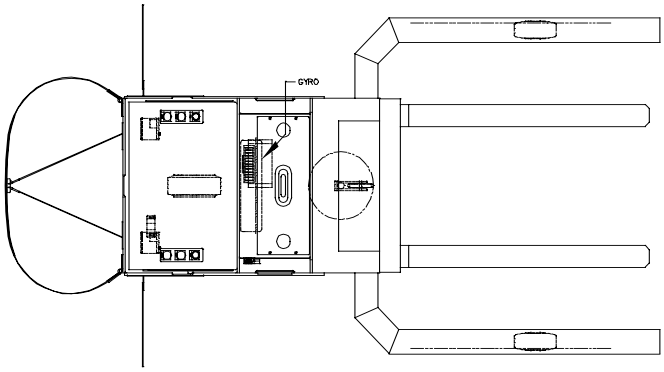
- Front poly-carbonate plastic bumper
- Rear emergency stopping sensors
- Emergency stop buttons
- Normal stop buttons
- Audio beeper while AGV is in motion
- Start signaling horn
- Flashing warning lights while in motion
- Dual-range object detection system

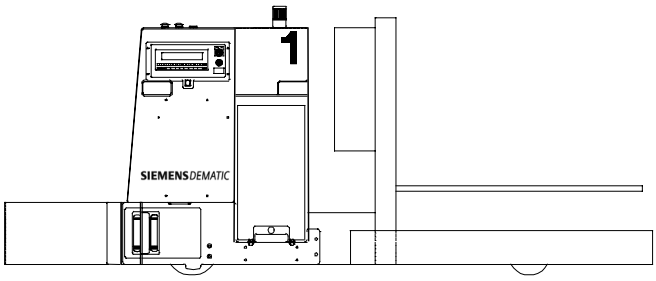
Display/Control Panel Features

- Touch sensitive keypad with sealed keys
- Easy to read, durable, 40 characters by 2 line display
- Status, prompts and error messages displayed
- Operators are prompted for input, decreasing operator interface time
- Displays AGV's current status (on path/off path, low battery, etc.)
- Invalid entry notification eliminates input errors
- Easy to customize for special applications
- Over 100 English text display messages

Options

- Q-CAN™ System Controls
- Q-CAN™ Designer PC Program
- Remote vehicle management and dispatching
- Automatic charging
- Turn signals
- Programmable laser scanning safety bumper
- Ramp capability





Mechanical Specifications

Carrying Capacity: 2,000 lbs. (909 Kg) rolling load (Carrying capacity on level grade with 2% coefficient of friction trailers)

Ramp: Up to 2% without de-rating capacity (ramps exceeding 3% require special evaluation)

Drive Configuration: Motor, transmission, drive wheel in vertical column

Drive Motor: 3 KW, 2.5 HP, series wound

Steer Configuration: Single front wheel steer

Drive Wheel: 10” (260mm) diameter x 4” (102mm) wide rubber

Load Wheels: 8-1/2” (216mm) diameter x 4” (102mm) wide rubber with tapered roller bearings

Brakes: Electric, fail-safe

Frame: 3/8” laser cut steel plate

Battery Compartment: 31.5” (800mm) L x 13.75” (349mm) W x 27.75” (705mm) H with roller conveyor access, 6.75” (171.5mm) top-of-roller

Vehicle Weight: 3,270 lbs. (1,486 Kg) with battery

Speed in Automatic: 200 fpm (61mpm, 2.3 mph,), 16 speed ranges

Manual Operation: Operator onboard compartment with joystick control, electric steering and braking

Keyswitch: Automatic, Manual, Off

Turning Radius: 6 feet (1.829m) minimum at rated load

Control Specifications

Controls: Single board computer, CAN bus

Electrical System: 24-volt power

Navigation System: Virtual wireless navigation (inertial) or wire-based guidance

Communications: Via Radio Frequency (RF)

Routing & Traffic: Onboard control logic

Battery System: Heavy-duty industrial grade battery with discharge meter

Position Accuracy: ±1” (25.4mm) stopping, ±1” (25.4mm) side to side

Battery Information

Battery AH: 600 AH (maximum) flooded cell, 630 AH sealed (maintenance free)

Battery Weight: Flooded – 1,225 lbs. (557 Kg);
Sealed – 1,250 lbs. (568 Kg)

Battery cycle: 8 hours minimum, based on standard duty cycle of 20% idle, 40% in motion full speed loaded, 40% in motion full speed unloaded

Charging Method: Manual battery exchange standard (or optional automatic charging)

NOTE: Specifications are subject to change without notice based on product improvements or technical requirements.