

# DEUTSCHE™

BEVERAGE + PROCESS



## User Manual

### CIP Cart

# Deutsche Beverage + Process

Deutsche Beverage + Process  
704-900-6606

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# CIP Cart Instruction Manual

## Safety

Always ensure the CIP cart is properly grounded and all electrical connections are secure before operation. Personal protective equipment (PPE), including chemical-resistant gloves, safety goggles, and aprons, must be worn when handling cleaning solutions. Never operate the system without first verifying that all clamps, gaskets, and valves are correctly installed and tightened. Pressurized lines and hot cleaning fluids can pose serious hazards; always relieve pressure and allow components to cool before opening or servicing the unit. Ensure all vessels are vented prior to sending cleaning solution. Only trained personnel should operate or perform maintenance on the CIP cart. In the event of a chemical spill or equipment malfunction, follow your facility's emergency procedures immediately and notify appropriate personnel.

## General Assembly



### Overall Specifications

- 1.5" 304SS piping
- 100 L System
  - C114-1.5"-1.5"-15KW-230V centrifugal pump
  - 6Kw Electric Heating
  - 2 100L storage vessels
- 300L System
  - 15Kw Electric Heating
  - C216-2"-1.5"-2.2KW-230V-60HZ-3HP centrifugal pump
  - 2 300L storage vessels

## Wiring

### Installation

- Connect power cord to the associated labeled terminals inside control box; 3 power wires and ground. Can be directly wired to breaker or a high voltage plug.



- Wire placement is not important because of 3 phase power, ensure proper direction of pump operation is achieved.



- Tighten Watertight connector on panel where power wire is fed into the panel



- Other end of power wire can be connected either by twist lock plug, or hardwired in directly to brewery power disconnect



#### Heating Element Breaker Explanation:

- 3 Heater breakers (one for each heating element)



## Pump Breaker:



## Wiring Diagram & Voltage

See *Wiring Diagram* for detailed layout:

- 100L Cart-
  - 208VAC – 28.375 FLA needed Breaker 30Amps
  - 480VAC – 12.41 FLA needed Breaker 15Amps
- 300L Cart-
  - 208VAC – 54.43 FLA needed Breaker 60Amps
  - 408VAC – 29.43 FLA needed Breaker 30Amps

## Equipment Breakdown



### Main Components

- A- 100L or 300L Heated Storage Tank (with temperature probe)
- B- 2<sup>nd</sup> 100L or 300L Storage Tank
- C- Control Panel
- D- Centrifugal Pump

## Function

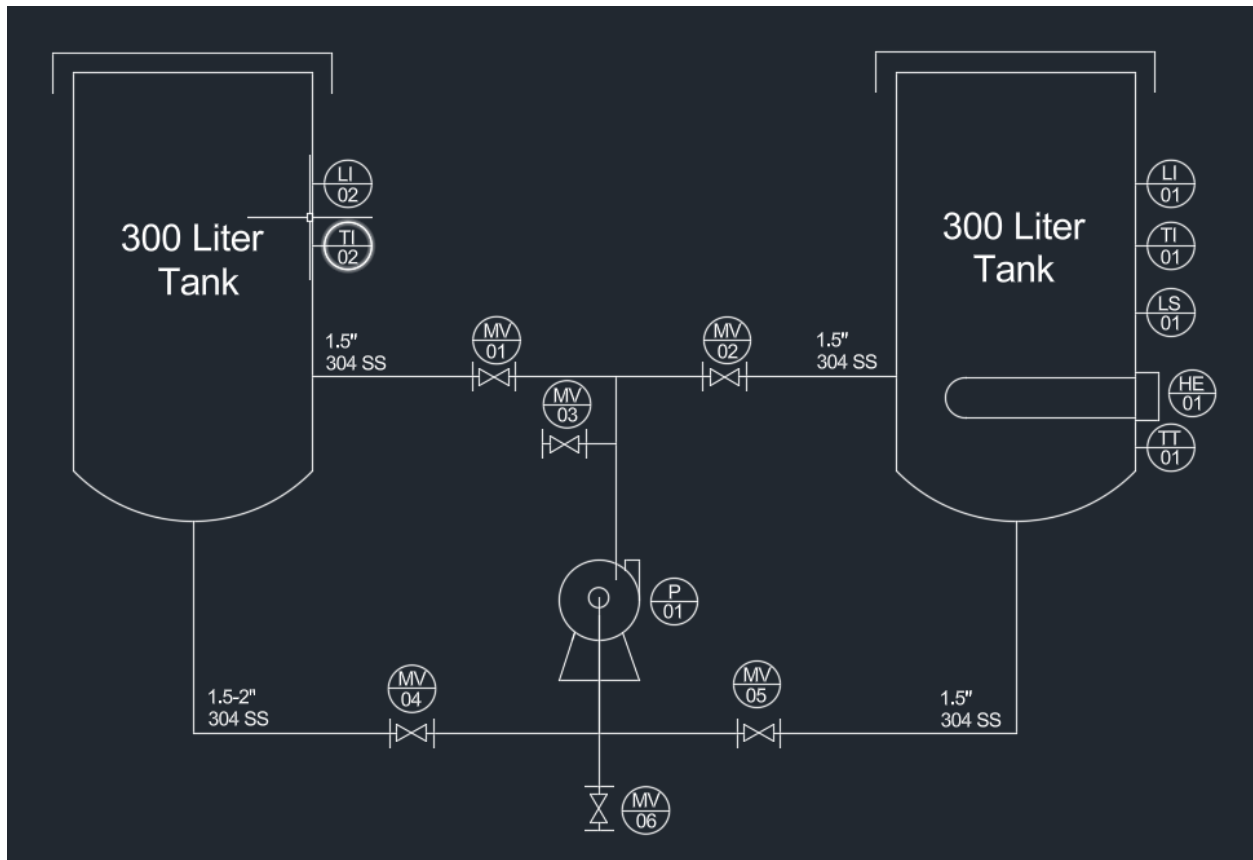
Overall, the CIP cart functions to sanitize a used process tank with a chemical solution.

The heated tank (100L or 300L) serves as a mixing and heating stage for your cleaning solution. The heating element will raise water to desired temp and the chemical addition can be mixed by activating recirculation loop for the cart.

The centrifugal pump acts as the transfer force behind every operation. The pump will send water to process tanks and is responsible for transferring liquid to the cleaning and homogenizing recirculation loops.

The control panel functions as an interface to control the pump speed through the variable drive as well as control temperature control modes and setpoints.

## Operation Instructions



## Common Flow Paths & Uses

### Heating and Mixing

1. When the heated tank is full of water, and the cleaning solution has been added to the appropriate dilution, you are ready to begin heating and mixing the solution.
2. Direct the solution through the pump inlet and back into the tank by opening MV-05 and MV-02. Activate pump to begin recirculation
3. Once recirculation has started, **ensure that the heating element is submerged. Heating element will not turn on unless the level is above level switch.**
4. Once that is confirmed, activate heating control at the panel. After several minutes your solution will reach effective cleaning temp, and you can power off your heating element and pump.

### Cleaning Solution Transfer

1. After the cleaning solution is mixed and heated, you are ready to transfer your cleaning solution to your used process vessel. Make sure the heating element has been deactivated.
2. Open a path to the pump inlet by opening valve MV-05 and connecting a hose from MV-03 to your tank CIP connection and opening it.
3. Activate the pump and visually ensure that your tank level is decreasing.
4. As soon as the tank is empty, simultaneously close MV-03 and deactivate the pump. Close the rest of the open valves in the loop.
5. You are now ready to begin tank cleaning and recirculation.

### CIP on a separate vessel

1. Once the cleaning solution has been fully transferred to your process vessel, you are ready to begin the bulk CIP process: recirculation. Ensure all valves begin CLOSED.
2. To begin, connect a hose from the drain of the separate process tank to MV-06.
3. Then, ensure that a hose also connects from MV-03 to the CIP inlet pipe on the separate tank.
4. Once these connections are verified, open a path through the pump by opening MV-06, and MV-03. Make sure that NO other valves are open at this point.
5. Activate the pump and leave the recirculation loop running for as long as is needed for sanitization.
6. Once the process tank is sufficiently cleaned, deactivate the pump and close appropriate valves.

### Rinsing With Water

1. After cleaning the tank with a chemical solution, you will likely want to rinse with pure water. Begin this with the same hose connections detailed in the previous step.

2. For this example, it is assumed fresh water is added into the non-heated tank, and the exhausted cleaning solution has been sent to drain.
3. To begin, open a path from the clean water tank through the pump and CIP connection to the separate vessel by opening MV04, and MV03.
4. Activate the pump to fill the vessel with clean water. Verify that the water level decreases when pump is active.
5. Once the water has been transferred, close previously opened valves. Open a recirculation path from the vessel drain to the CIP ball by opening MV06, and MV03.
6. Activate the pump to begin circulation. Stop pump to end water rinse.

# Controls Systems

## Components



Pictured above is the control panel for your CIP cart. It comes with 4 main components that will allow you to control the function of your system.

## Operational Instructions

### A- Pump Readout

This screen lets you accurately control pump speed once you have flipped the control switch to the ON position. Pump speed can be increased and decreased using the potentiometer knob.

### B- Temperature Readout

Inside the tank, a temperature probe reads the temperature and communicates with a controller that allows automatic temp control. To identify a setpoint, use the up & down arrows to increase or decrease the setpoint until the desired temperature is displayed on the screen. When the heating knob is switched in the “auto” position, then the heating element will turn on and off automatically to maintain your desired temperature.

### C- Pump Knob

The pump knob functions only as an off-on switch that will connect & disconnect power to the pump. It will not activate in the off position.

### D- Heating Knob

The heating knob has 3 positions that perform separate functions:

1. “Auto” setting will autonomously control the activation of the heating element inside the tank to reach and maintain a temperature setpoint that is determined on the temperature readout. This is the recommended option for heating.
2. “On” Setting maintains continuous heating through the element indefinitely.
3. “Off” removes all heat from the element and stops the water from warming.

## E- Digital Keypad guide



- |  |  |
|--|--|
| <p><b>1 Status Display</b><br/>Display the driver's current status.</p> <p><b>2 LED Display</b><br/>Indicates frequency, voltage, current, user defined units and etc.</p> <p><b>3 Potentiometer</b><br/>For master Frequency setting.</p> <p><b>4 RUN Key</b><br/>Start AC drive operation.</p> | <p><b>5 UP and DOWN Key</b><br/>Set the parameter number and changes the numerical data, such as Master Frequency.</p> <p><b>6 MODE</b><br/>Change between different display mode.</p> <p><b>7 STOP/RESET</b><br/>Stops AC drive operation and reset the drive after fault occurred.</p> <p><b>8 ENTER</b><br/>Used to enter/modify programming parameters</p> |
|--|--|

Display Message	Descriptions
	Displays the AC drive Master Frequency.
	Displays the actual output frequency at terminals U/T1, V/T2, and W/T3.
	User defined unit (where $U = F \times Pr.00.05$ )
	Displays the output current at terminals U/T1, V/T2, and W/T3.
	Displays the AC motor drive forward run status.
	Displays the AC motor drive reverse run status.
	The counter value (C).
	Displays the selected parameter.

Display Message	Descriptions
	Displays the actual stored value of the selected parameter.
	External Fault.
	Display "End" for approximately 1 second if input has been accepted by pressing <b>ENTER</b> key. After a parameter value has been set, the new value is automatically stored in memory. To modify an entry, use the <b>▲</b> and <b>▼</b> keys.
	Display "Err", if the input is invalid.

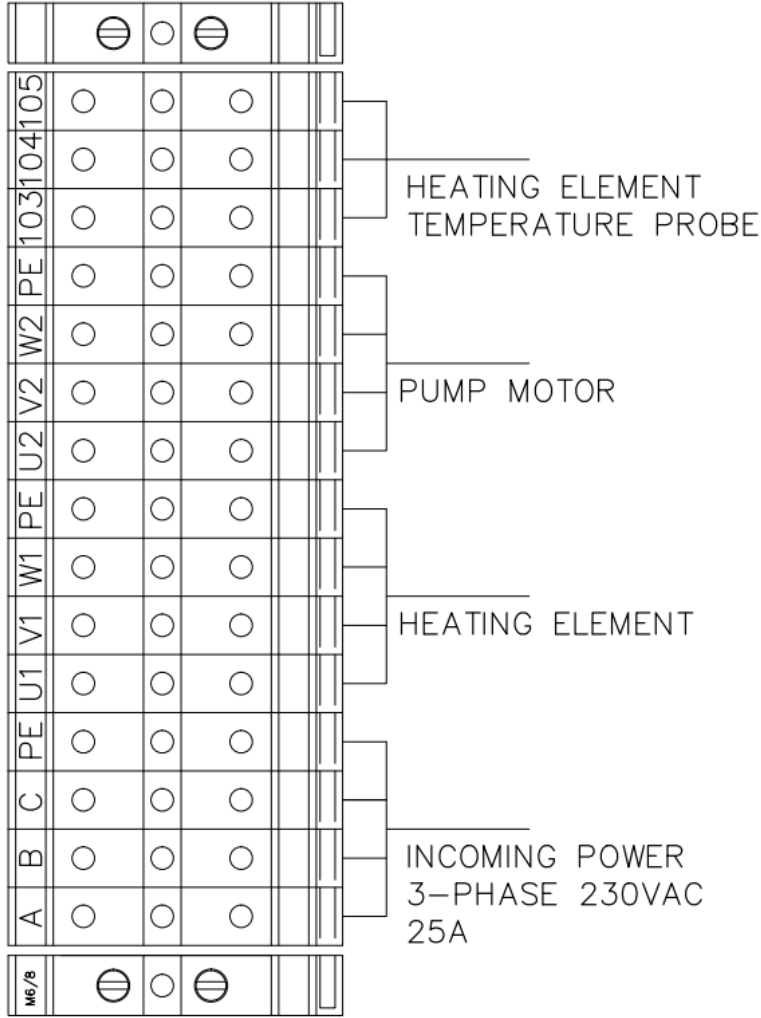
### NOTE

When the setting exceeds 99.99 for those numbers with 2 decimals (i.e. unit is 0.01), it will only display 1 decimal due to 4-digital display.





100L CIP CART/FILTER CIP CART 230V 50/60HZ  
 TERMINAL LAYOUT



FILE	CIP CART + FILTER CIP CART
DATE	07/2025
REV	01
DESCRIPTION	100L CIP CART/FILTER CIP CART 230V 50/60HZ
DESIGNED BY	BP
CHECKED BY	MM
DATE	07/17/24
TERMINAL	103
SCALE	1" = 1" AT FULL SCALE
PROJECT	DEUTSCHE BEVERAGE PROCESS
CLIENT	DEUTSCHE BEVERAGE PROCESS, CHARLOTTE, NC
PHONE	PH: +1 704-800-8606
SHEET	3 OF 3
REV	A





