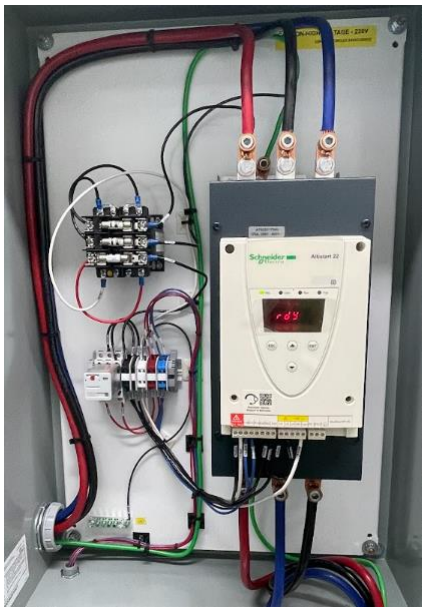
Rinse Pump Motor Starter (Soft Start)

591088-XXX-HP



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Part Number	591088-208-50/60	591088-230-50/60	591088-460-50/60
Voltage Rating	208V 3PH 60Hz	230/240V 3PH 60Hz	460/480V 3PH 60Hz
Pump Motor Rating	50 / 60 HP		
Full-Load Amps	143 / 169 A	130 / 154 A	65 / 77 A
Short Circuit-Current Rating	10kA		
Enclosure Type	4X		
Conductor Size Min. Spec	2/0	3 AWG	
Ground Size Min. Spec	6 AWG		
Disconnect Rating	No less than 200A		No less than 100A
Max Fuse	K5/RK5 200A		K5/RK5 100A
Max Circuit Breaker	200 A		100 A
Approx. Dimensions	20"W x 30"H x 11"D		

General Info

The purpose of this manual is to provide the necessary information to install and operate the Hydro-Chem equipment to exceed your defined expectation.

The Rinse Pump Motor Starter will come pre-wired and UL508a compliant. A schematic of the assembly and its torque specs may be found in the document holder within the enclosure and contractor wiring specs may be found within the document holder of the MCP.

System Overview

Figure 1 outlines the overall layout of the Rinse Pump Motor Starter while Figure 2 shows the electrical schematic.

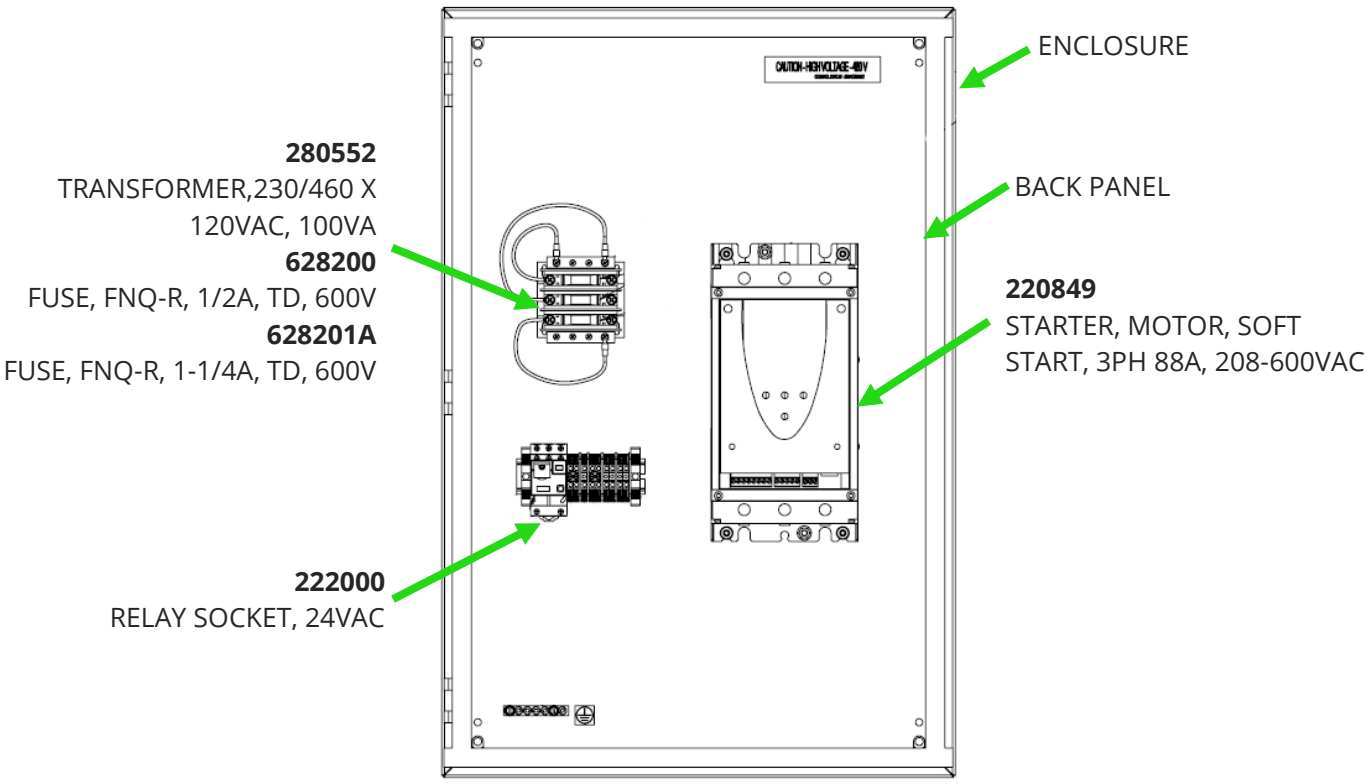

Figure 1. Motor Starter Assembly Layout

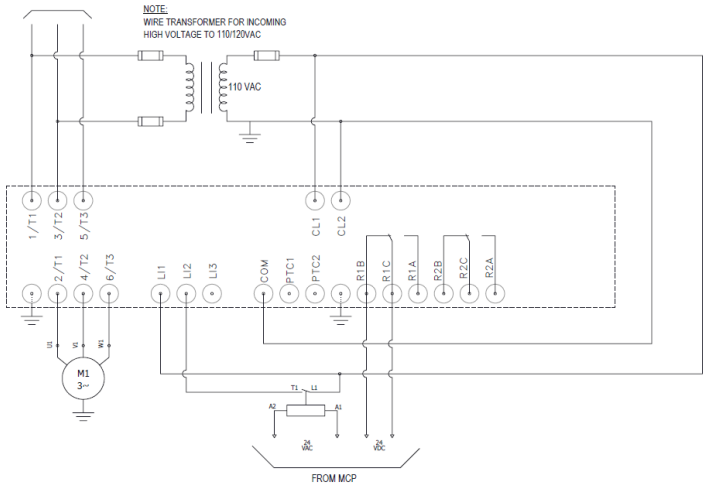

Figure 2. Motor Starter Electrical Schematic

Installation & Set-Up

Typically, an electrician will prefer to mount this Motor Starter themselves so that they can meet local code requirements and plan their conduit lines. The Starter should be wired to the instructions within the Electrical Packet for the Automated System and per the requirements on the provided drawing for the Motor Starter.

When starting the system, ensure that the pump has proper rotation. If it does not, then the electrician shall reverse the legs of the 3 Phase power between the pump motor and the Starter to provide proper rotation. Next, ensure that all required wires from the MCP are landed in the Starter.

In the Soft Starter Motor Starters, the following set-up guide should be followed for configuring the starter controls:

1. On the soft starter, use the forward and backward keys until you reach the Configuration menu, *conF*, and press the ENT key. This enters the Configuration menu.
2. Scroll using the forward and backward keys until you reach *LAC* setting in *conF* menu and press the ENT key. Select *on* for the advanced level set-up then press the ENT key.
3. Within the configuration menu, *conF*, scroll to *uLn*. This is the line voltage setting. Set this to the nominal voltage of the mains and press the ENT key.
4. Within the configuration menu, *conF*, scroll to *in*. This is the motor rated current setting. Set this to the FLA listed on the data label of the panel or the motor itself press the ENT key.
5. Within the settings menu, *SEt*, acceleration time *ACC* is factory set to 10s. This determines the motor's ramp up time. This is typically adjusted to 5-10s and has an adjustment range of 1-60s.
6. Within the advanced IO menu, *io*, Relay 1 *r1* is factory set to *nStP* – or not stopped – where the relay is not energized at stop and is energized at all other times. This should be changed to *triP* – where the relay is de-energized in case of a trip. The overload circuit to the MCP is wired to the normally closed circuit on Relay 1, so that the MCP received the signal only when the trip occurs.
7. Within the advanced IO menu, *io*, Relay 2 *r2* is factory set to *triP*. Relay 1 or Relay 2 must be set to trip within the starter for it to function and in this application, both relays should be.

8. *Skip on initial set-up* – Within the settings menu, *SEt*, initial voltage *t90* is factory set to 30%. This shall be left as is but may be adjusted, if necessary, in increments of 5 from 10-50%.
9. *Skip on initial set-up* – Within the settings menu, *SEt*, current limit *iLt* is factory set to 350%. This shall be left as is but may be adjusted, if necessary, from 200-700% of the *in* setting.
10. *Skip on initial set-up* – Within the settings menu, *SEt*, max start time *tLS* is factory set to 15s. This shall be left as is but may be adjusted, if necessary, from 1-250s.

Troubleshooting

Issue	Potential Solution
Arches are not activating during wash	Are any System Stop buttons are pushed in? If not activate the starter in Test Mode.
	If this activates the starter, check that the system sees when the exit door is open (Monitor System on the MCP).
	If this does not activate the starter, check that the MCP has 24VAC where necessary and proceed to the next steps.
	Check that the overload hasn't tripped at the starter. This can also be seen on the Touch Screen. If the overload has tripped, reset it.
	Check that the 3Phase supply voltage isn't disconnected or that a breaker hasn't tripped.
	Check Soft Starter controls settings from the Set-up portion. Adjust settings as needed.